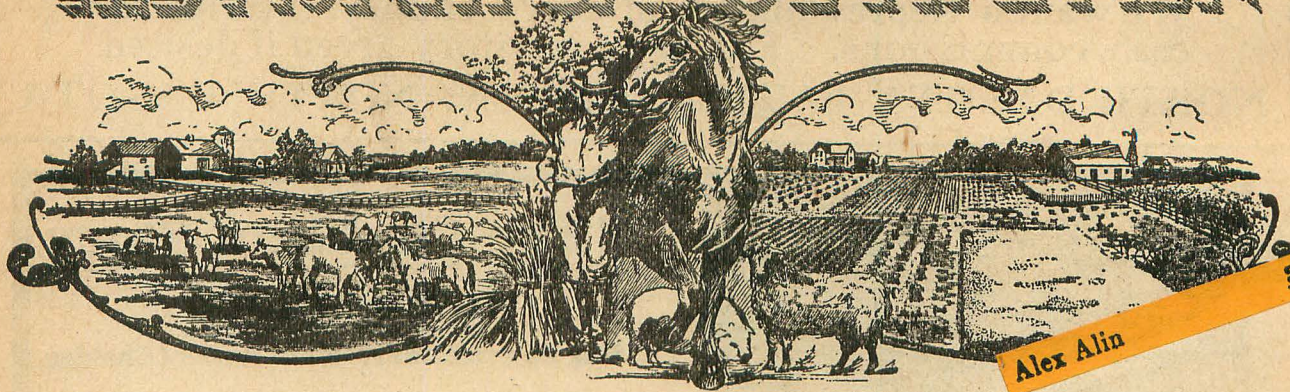


LIBRARY
UNIVERSITY OF NORTH DAKOTA
ELLENDALE BRANCH
ELLENDALE, N. D.

THE NORTH DAKOTA FARMER



Alex Alin

\$20

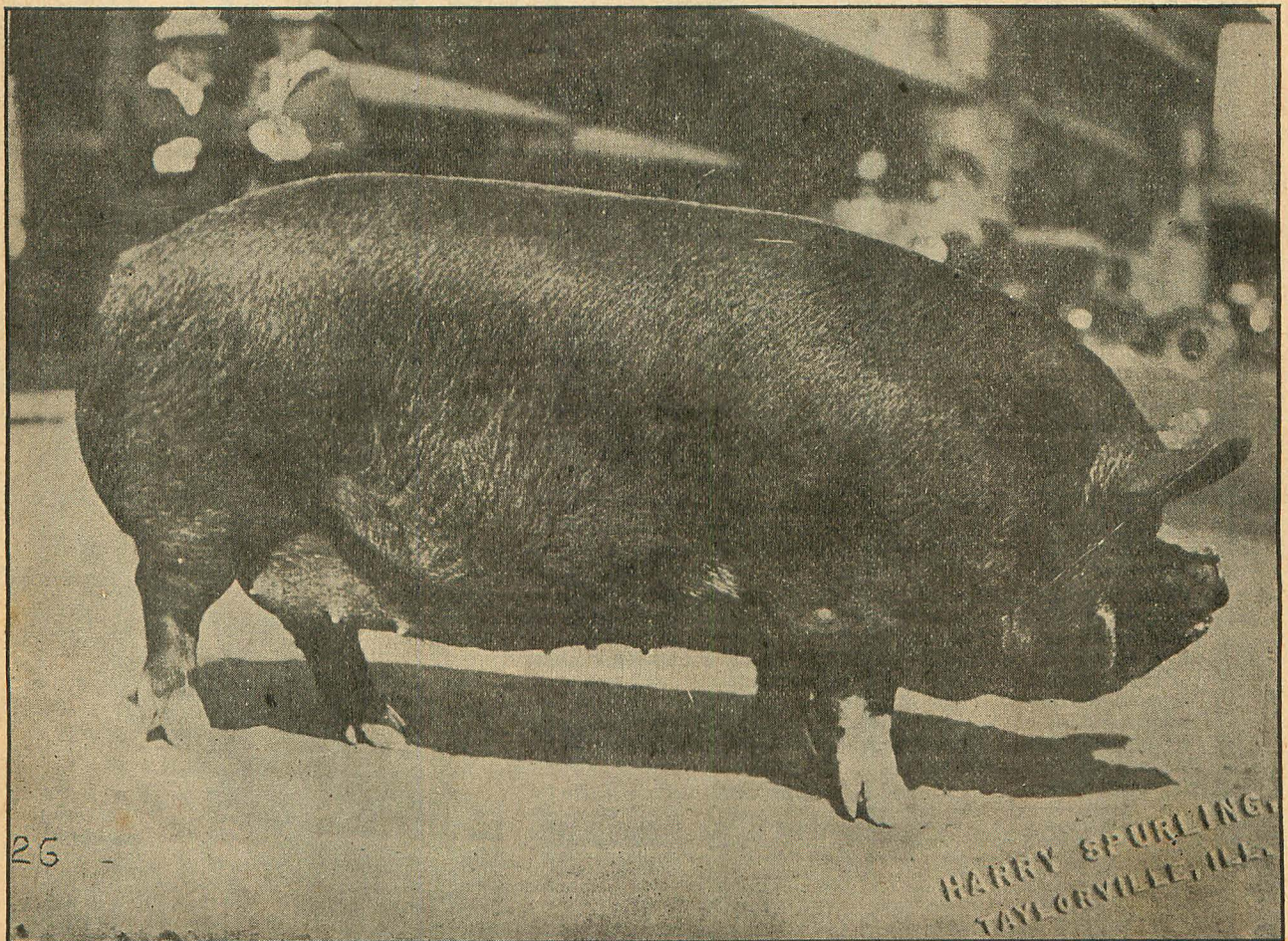
75 Cents A Year

Lisbon, N. D.

April 15, 1917

Vol. 18, No. 10

There is no Better Money Maker on the Farm than the Hog, and the Purebred Hog
Insures Production Far Beyond that of the Scrub



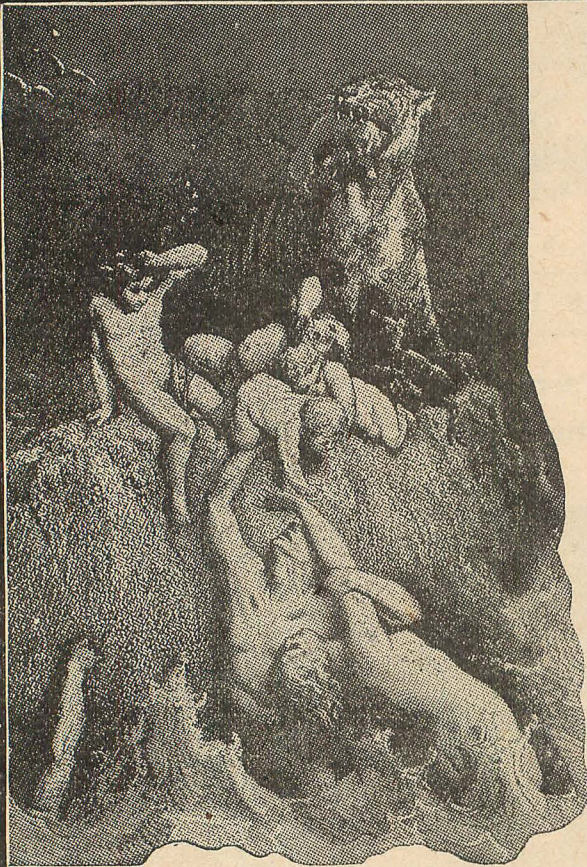
Berkshire Sow—Duke's Champion Lady 4th 206782 owned by Hamilton Farms, Gladstone, New Jersey.
Grand Champion Berkshire sow in 1916 at the Ohio, Michigan and Illinois State Fairs, National Swine
Show, Southeastern Fair Association, and International Live Stock Exposition.

978.4
N814
Graham

WANTED! - WANTED! - WANTED!

We want a Representative in every county. Write for cash commissions. Exclusive territory given if desired.

NORTH DAKOTA FARMER, LISBON, NORTH DAKOTA



"The Chaldean Story of the Flood"

Dug Up From the Ruins of Ancient Chaldea

DO YOU KNOW that there has been dug up from the ruins of old Chaldea a complete story of the Flood—the same in every detail as Moses' account in Genesis—and that it was written thousands of years before his version appeared? Hardly one in a million has ever had an opportunity of seeing this startling story—HAVE YOU? But it is one of the many thousand curiously interesting accounts in

The Library of Original Sources

now for the first time available to the general public. This wonderful set will for a short time only be offered to you at a tremendous reduction on the original publisher's price. Before the price is raised on the new edition we can offer a few sets at

A Great Bargain

FREE BOOK —thousands have written for our interesting **FREE** book of sample pages and list of curious "original records." Mail the coupon now and this book will be sent to you.

THIS MARVELOUS WORK is revolutionizing modern thought. It's turning upside down old notions and ideas. It gives the authoritative, rock-bottom sources of our knowledge on **ALL SUBJECTS OF HUMAN INTEREST** from the earliest civilization down to today—the inside facts which the average person has never even heard of.

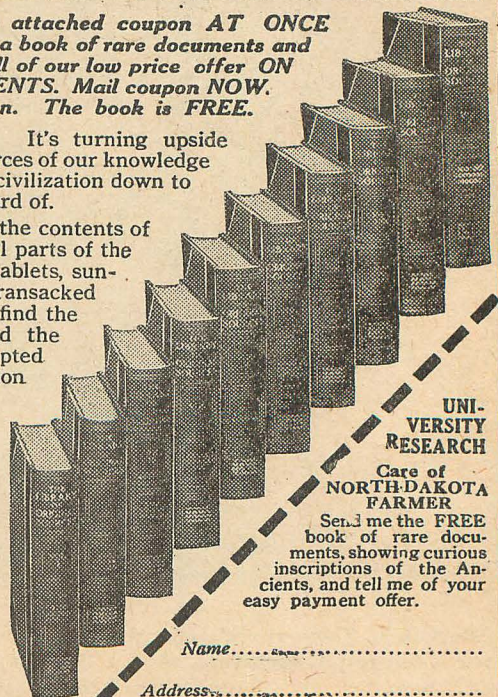
OVER 100 RESEARCH SPECIALISTS spent ten years gathering the contents of this great work. Ancient and remote and forgotten civilizations in all parts of the globe were uncovered, and age-buried hieroglyphics on monuments, tablets, sun-baked bricks and palimpsests yielded their secrets; untiring workers ransacked the hidden literature of every age, ancient, mediæval and modern, to find the "original documents" that shaped the civilizations and influenced the thought and life of the world. Nothing like it has ever been attempted or thought of before. You'll be amazed at the wealth of information this unique library contains.

DO YOU KNOW that the old Egyptians 5,000 years B. C. had a Bible? Do you know the Assyrian literature gives the story of the Creation? Do you know that books and newspapers were printed in Asia thousands of years before printing was invented by Gutenberg? Did YOU ever read Columbus' personal log of his great voyage? Do you know that there occurred in Mediæval England the first great Socialist protest? Do you know by what unique process Harvey demonstrated the circulation of the blood? Do you know who Machiavelli was or what world famous treatise he wrote?

YOU'LL FIND THEM ALL—and thousands of others equally as curious and important—in The Library of Original Sources. Every document is in the exact words of the original, translated; every contribution is from the actual eye-witness or person who took part; every idea is in the words of the thinker, investigator, discoverer or inventor.

10 sumptuous, massive volumes, bound in rich, black imported India Sheep skin; full-page illustrations, pure silk head-bands, large, clear type on handmade paper, gold tops; a triumph of the bookmaker's art.

Send the attached coupon **AT ONCE** and we will give you **FREE** a book of rare documents and curious inscriptions and tell of our low price offer **ON EASY MONTHLY PAYMENTS**. Mail coupon **NOW**. You assume no obligation. The book is **FREE**.



**UNIVERSITY
RESEARCH**

Care of
**NORTH DAKOTA
FARMER**

Send me the **FREE**
book of rare docu-
ments, showing curious
inscriptions of the An-
cients, and tell me of your
easy payment offer.

Name.....

Address.....

THE NORTH DAKOTA FARMER

Vol. 18, No. 10

LISBON, N. D., MARCH 15, 1917

75 Cents a Year

Planning the Farm Gardens

By John Willard Lincoln

Are you planning to plant a garden this spring large enough to supply your table with "green stuff" during the summer and with vegetables during the fall, winter, and following spring?

If you are not, you should do so.

Naturally you desire to make as great a profit as possible from the high prices prevailing for the big, staple crops by planting all the ground to them you can. Nothing you can do will return greater profits than to plant a good garden and raise enough vegetables to supply your family needs.

By the aid of public spirited citizens and organizations, and of the press, the people of the cities and large towns are being aroused to the necessity of turning their back yards into gardens in order to raise enough vegetables to supply their own tables, in a measure at least. While the city and town folk are striving to meet the constantly increasing demands for more vegetables by raising their own supplies, the farmers should be doing the same. As long as they depend upon the grocery shelves for vegetables, they are losing an opportunity.

There never has been such a shortage of garden truck, not only in this country but thruout the world. Every farmer must do his share to alleviate this condition—and the only way in which to do it is for each one to raise enough vegetables for his home use. Now it is not necessary to set aside a large section of land for this purpose. Thanks to the studies made of seed and soil problems by the agricultural colleges, the department of agriculture, the experiment stations and other farmers' agencies, there is plenty of information available as to intensive garden methods, planting pure seeds, fertilizing the soil properly, and the other factors entering into the securing of large yields from a small garden patch. Don't get the idea that the garden patch is of too little account to bother with and that Tom, Dick or Harry will raise enough vegetables and that you can buy from them. This condition of a farmer's not raising sufficient garden truck for his own needs and running to his grocer or some neighbor when he wants

vegetables is one of the chief reasons why there is such nation-wide scarcity of the common vegetables. Raise your own "garden sass." Board at home and save money.

The care of your garden patch will not take very much of the time of your farm hands from other crops. A little attention at odd moments will

A HYMN FOR ARBOR DAY

(To be sung to "America")

God save this tree we plant'
And to all nature grant
Sunshine and rain.
Let not its branches fade,
Save it from axe and spade,
Save it for joyful shade—
Guarding the plain.

When it is ripe to fall,
Neighbored by trees as tall,
Shape it for good.
Shape it to bench and stool,
Shape it to square and rule,
Shape it for home and school,
God bless the wood.

Lord of the earth and sea,
Prosper our planted tree,
Save with Thy might.
Save us from indolence,
Waste and improvidence,
And in Thine excellence,
Lead us aright.

—Henry Hanby Hay.

be sufficient to care for the garden after it is started, and the results will more than pay for the trouble. And when you lay out your garden, put it in a convenient place, somewhere near the house. Don't have it way off down in some meadow or up on a hill so that appreciable time will be lost in going and coming. If the garden is handy, you can work in it at between times without interfering with other duties. With cabbage bringing thirteen cents a pound, onions fifteen, and potatoes \$3 a bushel and other vegetables in proportion in the cities, the farmer who refuses to raise his own garden truck is not only cutting down his own net profit for the year but he is neglecting to do his share toward alleviating the nation-

wide food shortage. Let's have gardens on every farm this year, furnishing vegetables for home use and some to sell. Secure the seeds, garden tools and other equipment at once and get busy.

PATRIOTISM BEGINS AT HOME

Corn and Hogs and an Army

C. O. Hartley, in Charge of Corn Investigations

In emergencies it may be necessary for some patriots to unyoke the oxen and leave the plow standing in the furrow, but the lasting support of the nation requires efficient patriots to keep the plows going. The soil supports the corn; corn supports animals; corn and animals support an army; and "armies fight on their bellies." Let us properly care for the goose that lays the golden egg.

Whether corn prices are high or low, the farmer's profit depends on obtaining large acre yields. Large acre yields reduce the expense of both labor and land. It is remarkable that acre yields are increasing most rapidly in the states southeast and the states north and west of the corn belt states. These increased acre yields are largely due to earlier and thicker planting of better seed corn. Unnecessary losses from planting poor seed corn are diminishing as it is becoming better realized that neither frosts nor droughts can exterminate good acclimated varieties if sufficient seed be saved from good crops to last until another good crop is obtained. Good seed corn will retain its powers of germination and production for four or five years.

Assurance of a Good Corn Crop

In the northern third of the United States, corn yields are reduced by lack of heat more than by all other causes combined. The soil freezes to such great depths that the corn crop is slow in starting in the spring, unless assisted by deep spring plowing and frequent early cultivation. The object to be kept in mind in preparing the land is to cause it to warm up rapidly in the spring. Methods that permit air to enter the soil freely will assist the soil in becoming warm. The surface should be kept open and as dry as possible.

Planting

With due care in preparing land and with proper seed corn, plantings should be made several weeks earlier than is usually practiced in the northern states. Enormous losses due to failure of the corn crop to mature can be largely prevented by earlier planting. It has become customary to delay corn planting until the soil is warm, because poor seed will rot in cold soil. The proper kind of seed corn can be planted before danger from frosts is past. Spring frosts do not seriously damage very early planted corn. One fall frost is worse than three spring frosts. The earliest plantings mature earliest and usually pro-

duce the largest and best crops. While it may not always be advisable to plant "one for the blackbird, one for the crow, one for the cutworm, and three for to grow," it is advisable even with the best of seed to plant two or three kernels for every stalk desired. Some of the young plants will be destroyed. It is very much better and more profitable to pull out the weaker and superfluous plants than to attempt to get good results by replanting. Replanting very seldom gives good results. Thick planting and pulling out the weaker stalks increase the chances of obtaining good yields.

amount of snow among the small fruits and in the orchards.

An ideal tree for windbreaks is one of dense, rapid growth, that is at the same time hardy and long-lived. As it is impossible to get all of these qualities in perfect degree in any one species, it is usually advisable to use a combination of two or three different kinds to get the best results.

The box-elder possesses many of the requisites of a typical windbreak tree, growing rapidly while young, forming a dense, heavy growth, and thriving in any climate. Its defects are that it never gets tall enough and does not live long enough. It can be used for the first few years with elm and ash, cutting it out as it crowds the other trees.

In the eastern part of the state we have found the soft or silver maple to be among the best of windbreak trees. It makes a rapid, heavy growth and the lower branches keep vigorous and healthy. It is not found to be satisfactory everywhere, but in locations having a reasonable amount of soil moisture it grows well. In favorable surroundings it attains to great age and size.

Windbreaks and Hedges

By C. B. Waldron

The primary object of tree-planting in North Dakota has been and should be for protection. The damage done by hot winds to growing crops is a matter of common observation. This damage will depend upon the nature of the crop and the stage of its de-

velopment and drying winds makes a shelter belt almost a necessity if one is to get satisfactory results either from the standpoint of quantity or quality. Both the trees and the fruit of plums and apples are liable to considerable injury from strong winds, and most



Where the Norway spruce can be readily started and grown, it is the most popular windbreak, since a single row is more effective than three or four rows of deciduous trees.

velopment. Small grains are injured most when they are stooling or when the grain is forming. Strawberries are severely injured if hot winds come during the blossoming period or again when the fruit is ripening. Hot winds are most trying to celery and most other garden vegetables just after transplanting.

The injury to garden crops from hot

growers do not consider it practical to plant without some protection.

A badly arranged system of planting may be a positive detriment, because of the accumulation of snow drifts about the buildings and in the orchards. On the other hand, trees may be so arranged as to prevent the piling of snow about the buildings and to provide for approximately the right

In poor, dry soils or on alkali soil, the oleaster, commonly known as the Russian wild olive, is about the most successful tree. It never attains a large size and the top is short-lived, tho it will grow again from the roots when the old tops are cut down. Its thorny character makes it a good protection against stock. It should not be extensively planted where larger

and better trees will grow, but in difficult locations it is a very valuable tree for windbreaks.

The native or green ash is ordinarily looked upon as a grove or timber tree, but it has many qualities fitting it for a place in the shelter belt. It is of fair size, makes a dense, heavy top, and will grow on almost any kind of soil. Its growth under average conditions is about one and one-half feet per year. It does not make a dense growth close to the ground, as do the willow and oleaster.

The native or American elm is pre-eminently a shade tree, but some of our best windbreaks owe their good qualities largely to this tree. It gives permanence, stability, and height, as well as character and beauty to the windbreak.

The common gray or white willow, which has been so largely planted in the west during the last fifty years, is perhaps the best single deciduous tree for the shelter belt. It makes a dense growth and attains a height of from forty to fifty feet in twenty years. It does well upon all except very dry soils or soils containing alkali. It is easily and cheaply started from cuttings and never needs replanting, as it starts readily from the stumps. If several rows of willow are planted at a distance of eight feet apart, they will furnish a liberal supply of posts and fuel for an indefinite period. The young trees are subject to attack by caterpillars and the larvae of a sawfly, but these may be killed by spraying with Paris green.

There are a number of the smaller trees or large shrubs, like the choke cherry, wild plum, and wild thorn, that may be used along the outside of a windbreak to insure a dense growth close to the ground.

The cut shows a very fine shelter belt of Norway spruce growing at the Agricultural College. They are entirely hardy and need only protection from the sun while young, to make them a safe tree to plant. They should be set about eight feet apart and protected at first by box-elders set a few feet away on the south or west, depending on the direction of the rows. Where the Norway spruce can be readily started and grown, as among the fruit growers of the eastern states, it is the most popular windbreak, since a single row is more effective than three or four rows of deciduous trees.

The western yellow or bull pine, known to botanists as *Pinus ponderosa*, is doubtless the one evergreen destined to be planted largely in North Dakota for windbreaks. This tree grows wild in the southwestern part of the state, where it attains a

height of from fifty to seventy feet and a diameter of two and one-half feet. It is native also over most of Montana and the entire Rocky Mountain region. It is noted for its ability to grow in very dry locations having great extremes in temperature. It is said to require only one-sixth as much moisture as the average deciduous tree of the same size. In starting this tree, small plants not more than a foot in height and not over four years old should be used. They should be shaded the first year or two and mulched. Covering the entire plant with a light mulch the first winter is good practice.

The jack pine, which grows so widely over barren lands in Wisconsin and Minnesota and on east to the Atlantic, is a rapid growing tree when young, perfectly hardy and content to grow in any kind of soil. It never makes a large tree, but is of recognized value for windbreaks, especially on light, sandy soil where few other trees will grow. The other pines which we have tried are not so reliable as the two mentioned.

Planting the Windbreak

The width of a windbreak has much to do, not only with its efficiency in checking the wind, but in the matter

of the growth of the trees themselves.

A single tree or row of trees planted on the open prairie cannot succeed as well as a mass of trees. This is true of all trees suited for grove or windbreak purposes. Trees growing in a mass protect each other and furnish the shade that keeps the soil mellow and moist and prevents the growth of grass and weeds. The broader the belt of trees, the more perfectly this is accomplished. On the other hand, if the shelter belt is made more than about two rods in width, it will be necessary to plant a single row of willows four or five rods to the north to prevent the snow from piling in and breaking down the trees that go to make up the windbreak.

The elms should be kept trimmed for appearance's sake, but the rest of the trees are allowed to develop branches as low down as they will. The growth will be too dense to allow cultivation after five years. The trees at planting time may be two year old seedlings that have been discarded as too crooked and scrubby to plant in a grove. They are set in furrows made with a walking plow and cultivated as long as possible. This may be considered a good type of windbreak for the eastern part of the state. Further west it might be safer to

We Pay Top Prices Always

For Cream, Eggs and Poultry

We Are Cash Buyers. No Commission Charged.

Our motto: "Correct Weight and Honest Treatment." Prompt return of Check and empties guaranteed. Prices and Tags sent FREE.

A Trial Will Convince You that it pays to ship direct to us. Our outlet unlimited.

FARMERS CREAMERY & PRODUCE CO.,
Minneapolis, Minnesota.

ATTENTION, DAIRYMEN!

Ship your next can of cream to the Duluth Creamery & Produce Company

CASH AND CAN RETURNED PROMPTLY

The Duluth Creamery & Produce Company, with a capital of \$100,000, offers to the farmers of the Northwest every opportunity to sell their cream to good advantage.

Our new, modern, sanitary plant enables us to handle large quantities of cream each week. Located in Duluth, the natural distributing point of the Northwest, we are able to sell quality dairy products at the highest market prices. For that reason we can pay you good prices for your cream.

Whether you have one cow or one hundred we want to show how you can get good profits from your cows by **SHIPPING DIRECT TO US.**

Write today for shipping tags and we will send you our paying prices for butter fat.

DULUTH CREAMERY & PRODUCE COMPANY
DULUTH, MINNESOTA.
MERCHANTS—Highest Market Prices Paid for Eggs—Write Us.

Clip this Coupon and mail today.

Duluth Creamery & Produce Co.,
Duluth, Minn.

Without obligation, I should like to receive your shipping tags and be advised of your methods of buying cream.

Name

Post Office

Shipping Point

Tell your neighbors to write us, too.

plant box-elder in place of the soft maple and oleaster in place of the willow, the ash still to be planted as the principal tree.

As a matter of fact, all the varieties of Russian Willow, elm, ash, and soft maple, are hardy enough and if the man planting them will give them the same care that nature does, by providing a mellow, moist soil, his windbreaks will comfort him till the end of his days.

Hedges

For certain purposes the windbreak may take the form of a high hedge. At other points a lower hedge planted simply to define the boundaries of the place may add greatly to the appearance and be useful as well. Generally speaking, we would not recommend the use of hedges for field fences. Their chief use should be to shut off the door yard from the barnyard and highway, or to enclose the garden against hogs and chickens.

A hedge should always serve some

obvious use and never be planted merely for show.

The golden willow is often used for hedge purposes, and while it makes a beautiful hedge for the first few years, it soon dies at the center and must be cut to the ground again.

The Russian wild olive or oleaster makes an excellent hedge that can be grown to any height and becomes fairly stock-proof. On account of its ability to endure heat, cold, and drouth, it is about the safest hedge to use for general planting.

The wild plum makes a good hedge, but suckers too much.

The buckthorn is one of the commonest and one of the best of all hedge plants. It has about all the good points that a hedge plant should have and none of the bad ones. It also may be made stock proof. From the standpoints of both beauty and use, it has no superior.

The Caragana, sometimes called the Siberian pea, is a very hardy and beautiful hedge plant. It will not turn stock and its foliage does not last like that of the oleaster or buckthorn.

One of the best returns from the planting of trees for protection is the happy assemblage of fruits and flowers that is sure to find a congenial home among them sooner or later. The first step in disarming the critics of North Dakota who berate us for our barren and cheerless homes, is the planting of trees for protection.

wheat are grown in Montana, that the wide range in climatic conditions affects the crop, and that the marketing and selling of wheat in Montana have not as yet been developed to the same stage of efficiency that prevails in many other sections. Confusion exists in the classification and grading of wheat and the methods of handling are frequently unnecessarily expensive.

These conditions, it is believed, will be gradually removed as the industry in the state grows in importance. This growth has already been most marked. The production in 1912, for example, was three times as great as that in 1909.

There is nothing in the quality of Montana wheat to interfere with this probable increase in the wheat industry. The investigators found that five distinct classes of wheat are produced in the state. These may be designated as hard spring, hard winter, western red, western white, and durum. The two classes of hard wheat have about the same milling quality.

In comparison with other sections it was found that Montana hard winter wheat, which is plump and sound and of high weight per bushel, gives about the same flour yield as similar wheat grown elsewhere, and that the color of the flour is equal to if not better than the average. The baking strength of the Montana samples was not ex-

Hogs Grind Grain

Saves Grain Always Sanitary



Received Highest Award

Panama Pacific Exposition

The hogs grind their own grain, thus saving feed and labor. Mill will care for 30 hogs at full feed and is easily and quickly operated by hogs weighing 40 pounds. Grinds all kinds of grain, keeping clean, fresh and sanitary always.

60 Days' Trial Without Risk

We positively guarantee to refund all money and pay freight both ways if you are not absolutely satisfied at the end of 60 days' trial. Write today for free booklet and our 60-day Trial Without Risk offer.

HOG MOTOR COMPANY

741 Andrus Bldg. Minneapolis, Minn.

AGENTS WANTED

In small towns and country. Take orders for fruit and ornamental trees. No outfits for sale. Start you absolutely free.

GARMEN NURSERY CO.

Department K, Lawrence, Kans.

MONTANA WHEAT OF GOOD QUALITY

Montana wheat has suffered somewhat unjustly, say specialists in the U. S. Department of Agriculture, from the fact that it is still regarded by many millers and buyers as a "newcomer." Its reputation has not been so firmly established as yet that the trade is very sure of it, and in consequence the demand is weak enough to keep the price low in comparison with wheat of the same grade from other localities.

This condition has been enhanced, says a new publication of the Department of Agriculture, Bulletin 522, by the fact that many varieties of

7HP WHITE Gasoline Engine

Here is a Bargain

This engine was in daily use in our plant until replaced by electric motors.

Just What You Want For GRINDING FEED, SAWING WOOD, PUMPING, SILAGE CUTTING, ETC.

Cost \$300 **\$70** Takes It

If interested address
North Dakota Farmer
Lisbon, North Dakota

BORING AND REAMING OF CYLINDERS

We rebores and ream all sizes of auto and gas engine cylinders fitting same with larger pistons and rings. We weld all Metals. Our machine shop is equipped to handle both large and small work. Send your next job to.

DAKOTA WELDING AND MANUFACTURING COMPANY

203-5th St. N. : : : FARGO, NORTH DAKOTA : : : Telephone 926

ceptionally high, but in every case it fell within the range of quality in this respect found in hard winter wheat elsewhere. Flour from Montana wheat, on the other hand, averages considerably higher in water absorption, a characteristic that is desired by bakers. A comparison of Montana spring wheat with the spring wheat from other sections gives similar results.

The durum wheat grown in Montana does not differ widely in essential characteristics from the durum wheat grown in other sections. This is also true of the western red and western white wheats.

From these facts the bulletin already mentioned concludes that the comparatively low prices that have been paid for Montana wheat in the past are due more to lack of information as to its true character and quality than to any inherent defects. As wheat from this state becomes better known it is believed that the demand for it should increase. As has already been pointed out, the industry now suffers from some confusion and unsatisfactory methods of handling and marketing. An increased demand should do much to eliminate these.

HOW THE MID-WESTERN FARMERS ARE HELPING THEIR GOOD FRIENDS, THE BIRDS

Felix J. Koch

Thruout this great section of the American Mid-West the birds have put in appearance this year in unprecedented numbers; there are birds so rare as not to have been chronicled in these sections heretofore, there are birds that destroy the worms, and other insects most harmful to the farmer's crops; and there are abirds who, while they may steal a few of the farmer's small fruits every so often, still wake him with glorious songs and attract his eye by their lovely plumage, so as to more than repay for the few cents' worth of fruit they may eat.

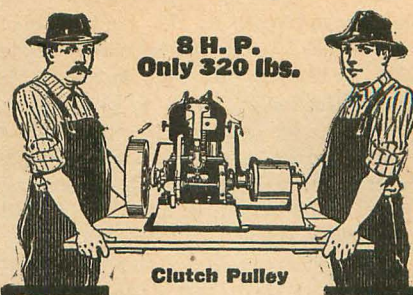
The Audobon Society has sent leaflets of instruction to farmers' gatherings, out into the country schools, where the children may take them back home with them, to the pastors of the country churches, to the traction sidings and to the railway stations, and up on the telephone posts, along the highway, you will find big placards, telling you to "Spare the Quail."

First and foremost in this campaign for the birds has been the posting of the trees along each farmer's

bounds with signs forbidding hunting. Not alone does the farmer wish what game may be upon his preserves for himself, but if he goes out to shoot, in proper season, he will shoot game, and nothing else. But the city nimbards, who come out really more for the lark than what they may kill, pop with the gun at robins, a mess of which aren't such bad eating, send random shots at wild doves, quite as toothsome as the pigeon, which might be purchased in their city stores now far rarer, fire random shots, just to show how well they can hit, at red-bird or bluebird, all for pure devilment, but, too often, bring harm to the birds. Where farmers do not post their bounds with these anti-hunting signs, trespassers will often cross, hunt and kill, then "bluff" the owner of the land into believing he has no recourse at law, because of no warning given. Even so, a petty fine at court doesn't bring the slaughtered birds to life.

More than this, the farmer boys have been taught the usefulness of the birds and not to disturb their nests. As result, the birds are very tame, and on the highroad itself, in the telephone-posts, woodpeckers pierce their holes and make their homes, and not a farmer's boy climbs up to take the eggs, to collect or trade, as they did not so long ago. Wherefore the woodpeckers repay by taking the worms that kill the farmer's trees—worms beneath the bark, which they alone can hear and which he would have no possible means of getting.

In the suburbs, bird lovers have set the fashion of whittling artistic little nests with a pent-house, much like a Swiss cottage, nests with holes of just

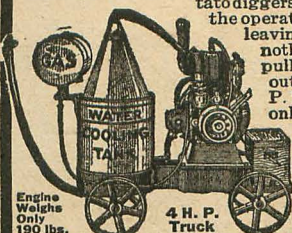


Pick It Up and Walk Off

Did you ever see any other 8 H. P. Engine two men could carry? Cushman engines are the lightest weight farm engines in the world—easy to move around and put to work anywhere. No longer necessary to put up with old-style, back-breaking, heavy weight engines, with their violent explosions and their fast and slow speeds. The Cushman weighs only about one-fifth as much, per horsepower, but with its modern design, accurate balance and Throttle Governor, it runs much more steadily and quietly.

Cushman Light Weight Engines

40 to 60 lbs. Per Horsepower
The 4 H. P. weighs only 190 lbs. Mounted on iron truck, as shown below, it may be pulled around anywhere. Besides doing all other work, it may be attached to moving machines in the field, such as grain and corn binders, potato diggers, etc., driving the operating part and leaving the horses nothing to do but pull the machine out of gear. 8 H. P. 2-cyl. weighs only 320 pounds. Sizes up to 20 H. P. Not cheap engines, but cheap in the long run. Book free.



CUSHMAN MOTOR WORKS
881 North 21st Street
Lincoln, Nebraska

Bush Car Delivered Free

Ride in a Bush Car. Pay for it out of your commissions on sales, my agents are making money. Shipments are prompt. Bush Cars guaranteed or money back. Write at once for my 48-page catalog and all particulars. Address J. H. Bush, Pres. Dept. 44G
114-In Wheelbase
Delco Ignition—Elect. Stg. & Ltg.
BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois



I'll Show You How — Send the Coupon Today

If you SAW thieves robbing you of wagon loads of your \$1.00 corn, you'd stop them quick! But, right now, UNSEEN thieves—thousands of them—are not only stealing your feed, but imperiling the very lives of your animals. I refer to the feed-eating, blood-sucking, disease-breeding worms. I'll show you how to rid your animals of these expensive pests; how to STOP the feed loss and have thrifty, healthy, profitable live stock. I'll show you how to do it with



My new book tells everything. Fill out and mail the coupon and I'll send the book FREE. I'll tell you also where and how you can get enough SAL-VET to feed your stock 60 days and have your money refunded if it fails to do all I claim. Mail the coupon NOW. Address

SIDNEY R. FEIL, Pres.

The Feil Mfg. Co., Chemists
Dept. 141 Cleveland, Ohio

The Great Live Stock Conditioner



The Great Live Stock Conditioner

[277]

Name.....

P. O.

Shipping Sta.....

My Dealer's Name.....

His Post Office is.....

PRICES 10 lb. pkg. \$.75
20 lb. pkg. 1.25
40 lb. pkg. 2.25
100 lb. pkg. 5.00
200 lb. pkg. 9.00
300 lb. pkg. 13.00
500 lb. 21.12
Dealers sell SAL-VET at above prices, but in the far West and South they charge a little more because freight charges are more. Never Sold in Bulk, only in packages of above sizes — never loose or by the pound.

THE FEIL MFG. CO.
Dept. 141-4-17 Cleveland, O.

Send me your FREE BOOK on care of live stock. I have.....

hogs.....sheep.....horses and mules.....cattle.

Name.....

P. O.

Shipping Sta.....

My Dealer's Name.....

His Post Office is.....

the size adapted to the kind of bird the farmer would entice, nests, some with a branch put just outside this little hole, for the birds to perch upon and sing, or feed their young, and nests covered over with a rough plastering, painted in washed-out greens, olives and emerald, so as to fit in with the foliage about.

Farmers are going so far as to put these nests on their fence posts,—often taking additional care to twist a few strands of the barbed wire of the fence just below, so that cats and other prowling creatures cannot get up to the birds.

Other times, again, farmers and their sons spend the long winter evenings whittling, contriving, building a bird-house that rises, floor over floor, tapering from bottom to top, till the whole makes one think of some miniature Chinese pagoda. The whole is then mounted on a tall post and set out in that garden.

But to attempt to detail the endless variety of houses set up for the birds, the endless devices used to entice them to come and stay on ones place, were folly, indeed. They range from cutting a hole in a bottle-neck gourd, then swinging this from the

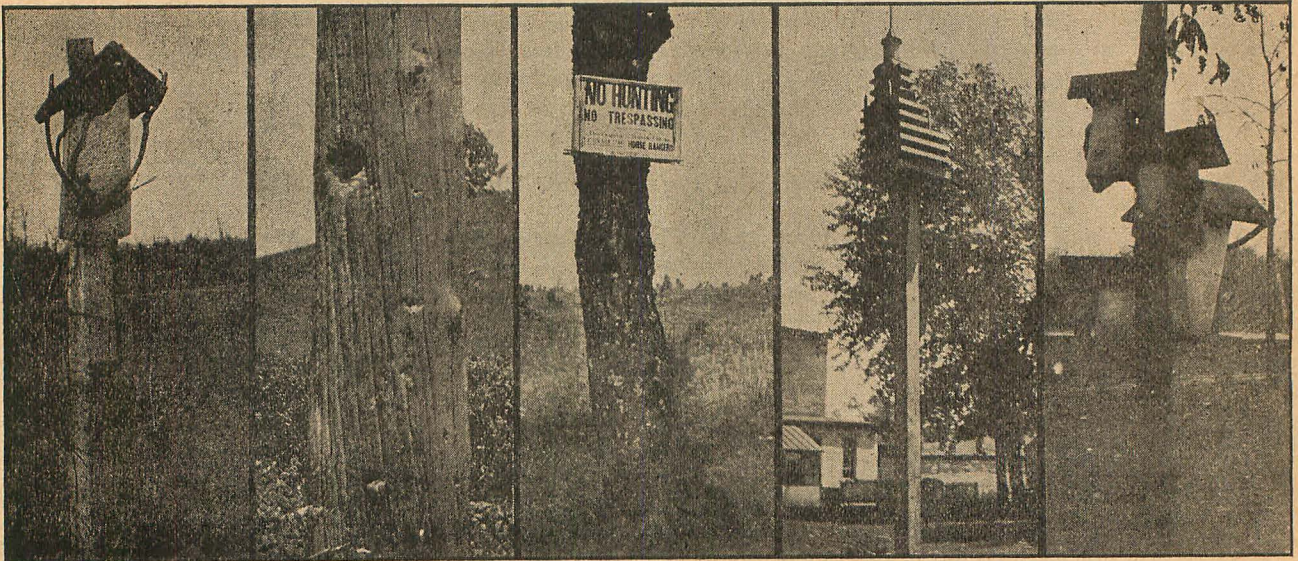
own excuse to exist, by their songs, their merry antics round the nest; but, best of all, repay in the ceaseless fight they wage on the insects so harmful to the farmer.

QUERY AND ANSWER

North Dakota Farmer:

Dear Sir: In regard to this federal loan association will you advise us how to proceed to organize, or have you any literature to that effect which you could send me?

Can we organize with ten parties putting in their application for loans some who don't expect to make the



"The Birds Repay in the Ceaseless Fight They Wage on the Insects So Harmful to the Farmer."

Again, nests of the sort will be put in the farmer's garden, two or three of them often to a single tree, and the farmers will turn a few stray boards to a 'feeding-table', as it is called, and on this, each day, after meals, whatever crumbs may be left from the lunch, old crusts of bread, bits of suet and the like are thrown. The birds soon come to know the place and to feed there, assured that their foes of the earth level cannot attain here and that the proximity of the human beings about will ward away aerial enemies, such as hawks and owls.

barn gable, to costly bird-houses, bought in the big art stores, on the visit to town, and hung where all may admire.

Suffice, they serve to hold the birds, and the birds, in turn, repay, repay by their very beauty, which is its

loan for about two or three years from now. It will be a favor to us if you will answer me so I can report on this next Tuesday evening at the Spring Valley Farmers' Club.

Yours truly,

T. T. HAGEN.

Lumber, Post S Shingles

Get our low delivered estimate on your house and barn bills. You inspect lumber before paying.

G. R. KIRK CO.,

Dept. F. - Tacoma, Wash.

Farm Hands Wanted

**Western Canada Farmers Require 50,000
American Farm Laborers AT ONCE!**

Urgent demand sent out for farm help by the Government of Canada. Good wages. Steady employment. Low railway fares. Pleasant surroundings. Comfortable homes. No compulsory Military Service. Farm hands from the United States are absolutely guaranteed against Conscription. This advertisement is to secure farm help to replace Canadian farmers who have enlisted for the war.

A splendid opportunity for the young man to investigate Western Canada's agricultural offerings, and to do so at no expense. Only those accustomed to farming need apply.

For particulars as to railway rates and districts where labor is required, or other information regarding Western Canada, apply to

W. E. BLACK, Clifford Block, Grand Forks, N. D.

Authorized Canadian Government Agent

Mr. T. T. Hagen,
Parshall, N. D.
Dear Sir:

Your letter of March 27th addressed to the North Dakota Farmer has been referred to the undersigned for reply. I have already mailed you a set of printed directions on how to organize National Farm Loan Associations.

By following these directions carefully you should have no trouble in organizing your local and in securing your loan from the St. Paul Land Bank.

According to the latest ruling I have had from the Land Bank, farmers joining locals are allowed six months time in which to take out their loans. It is best to have more than ten parties joining at the start if possible. You will find, however, that if you begin with ten members and give it publicity a great many new members will soon join. You should have no trouble, therefore, in having ten borrowing farmers asking for loans within six months time.

Yours very truly,

J. E. BOYLE,
Field Agent in Marketing.

GOOD ROADS FOR DEFENSE

Insistently the need of roads in connection with comprehensive preparedness is being expressed all over the country. Down in Birmingham, beginning April 17, a monster good roads gathering will be held in which the senior United States Senator from Alabama will play a prominent part. Chairman John N. Bankhead of the Senate Committee on Postoffices and Postroads thus comments on the pre-preparedness situation: "If we are to have war, we must have roads; if we have peace, we must also have roads. It may be that I can be of the most service to my country, whether in war or in peace, by promoting in every way possible the building of better highways."

Out in California the first public utterance of Governor William B.

Stephens calls for "Federal, state, and county cooperation in the construction of military roads for coast protection and for defense in other ways."

Governor Walter E. Edge of New Jersey was an impelling factor in the recent adoption of a one-mill tax for state road purposes. The amount to be raised is \$15,000,000 and the man sought to be the state highway engineer is none other than George

W. Goethals, the Panama Canal builder. The plans also call for improved communication between New Jersey and New York State thru the building of a bridge and a vehicle tunnel under the Hudson. It was former Governor Franklin Fort of New Jersey who suggested an ocean boulevard, the name of which could now easily be changed to that of the Atlantic Defense Highway. One of

Anthony Fence

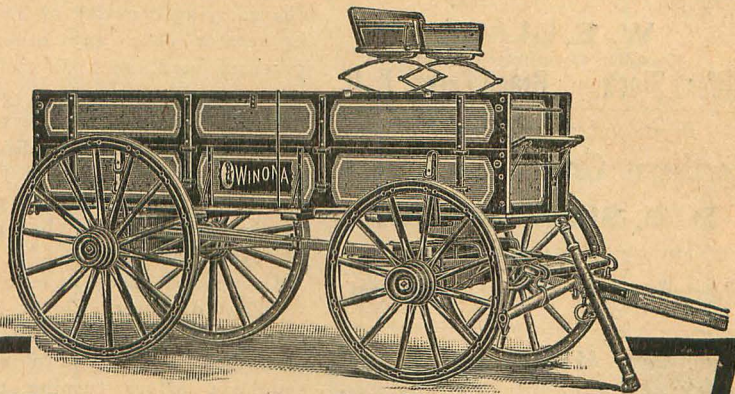
Under stress of action each wire within a considerable radius is brought into play, affording, to an extraordinary degree, the resistance of a flexible wall of steel—due to the perfectly balanced woven fabric, in which each wire is drawn under equal tension with machinery of special design. Thoroughly galvanized.

American Steel Fence Posts last a lifetime. Hold fence secure against all conditions.

Sent Free—Our Book, "How to Build a Fence." Dealers Everywhere

AMERICAN STEEL & WIRE COMPANY
Chicago New York Pittsburgh Cleveland Denver

Awarded Grand Prize at Panama Pacific International Exposition
The Supreme Award of Merit



The Wagon that's Built for Service

WINONA Wagons are built to make good in hard, steady road and field use. Extra strong where extra strength is needed. Made from "bone dry", time seasoned oak and hickory, ironed "for keeps."

WINONA FARM WAGONS

OUTER bearing axles prevent breakdowns. Clipped gears, strongest wheels in the world. Bent, double-riveted Felloes. Strongest Skeins, Poles and Hounds. Substantial extra cleated Boxes. Durable painting.

Write for Catalog F showing different styles of Winona Wagons with details of their unequalled construction.

WINONA WAGON COMPANY, Winona, Minn.

PROFITABLE Pine Planting

Experimenting has been done. Both federal and state officials have carefully tested the most promising trees for prairie planting during the past 26 years and now large areas of the sand hills of Nebraska are covered with Jack Pine. Planters claim this plantation is worth \$100 per acre as soon as established. The experiment stations at Brookings, S. D. and Dickinson, N. D., report this species doing remarkably well.

It grows better on the prairie than in its native woods. Saw-logs were grown in twenty years in Nebraska. There is no other tree of equal value for prairie windbreaks and groves.

AYRES' JACK PINE NURSERY
Kimberly, Minn.

the last acts performed by President Woodrow Wilson as chief executive of New Jersey was to approve of a law which looked forward to the state-built road system which will become a reality thru the legislation obtained by Governor Edge.

Under the direction of Chairman George C. Diehl of the A. A. A. Good Roads Board, a special edition of the A. A. A. transcontinental map has been prepared containing the present main travelable interstate and intrastate roads which would fit into a countrywide system that would lend itself in great degree for military pur-

poses. One of these maps goes to President Wilson, one to Maj. Gen. Hugh L. Scott, one to Brig. Gen. Joseph E. Kuhn of the War College Division, and a fourth to Director W. S. Gifford of the Council of National Defense.

While many A. A. A. State and local clubs thruout the country have offered their services for mobilization purposes, the exact manner in which they would fit into the plans of the War Department has not been definitely decided upon. Announcement is expected in the comparatively near future.

Canada Offers 160 Acres Land Free to Farm Hands

Bonus of Western Canada Land to Men Who Assist in Maintaining Needed Grain Production.

The demand for farm labor in Canada is so great that as an inducement to secure at once the necessary help required, Canada will give one hundred and sixty acres of land free as a homestead and allow the farm laborer, who files on land, to apply the time he is working for other farmers as residence duties the same as if he had lived on the land he had applied for. This offer made only to men working on Canadian farms for at least 6 months during 1917, thus reducing the necessity of actual residence to 2 years instead of 3 years, as under usual conditions. This appeal for farm help is in no way connected with enlistment for military service but solely to secure farm laborers to increase agricultural output. A wonderful opportunity to earn good wages while securing a farm. Canadian Government will pay all fare over one cent per mile from St. Paul and Duluth to Canadian destination. Information as to low railway rates, etc., may be had on application to

W. E. BLACK

Canadian Government Agent

Citford Block, Grand Forks, N. D.

Write today for Catalog of Northern Grown Seed Corn

D. D. SIMMONS CO.

The Moorhead Seed House,

Moorhead, - Minn.



"More Potatoes"

From ground planted secured by use of The KEYSTONE POTATO PLANTER than by any other method of planting. Work perfectly accurate. A simple, strong, durable machine. Write for CATALOG, price, etc. A. J. PLATT, MFR. BOX 14 STERLING, ILL.



PRICE LIST and book of valuable information Free. Tells best way to care for hides intended for tanning. We own and operate the largest custom tannery in the country, tanning hides into robes, coats and leather, direct for farmers. In business since 1894 and under same management. For quick service and best tanning, write:

CROOKSTON TANNING CO., Dept. 21 : Crookston, Minn.

FARM HINTS

From N. D. Experiment Station

METHOD OF SOWING SWEET CLOVER

Sweet clover can be sown with wheat or barley as a nurse crop or it can be sown alone. The certainty of securing a good stand is best when sown alone. This is an expensive way, however, as no return is secured from the land that season unless it be some pasture in the fall. The most economical method is to sow it with a nurse crop as a good stand usually results and a crop is secured at the same time.

SWEET CLOVER FOR PASTURE

According to data secured from a number of farmers in North Dakota, the carrying capacity of Sweet Clover is greater than any other kind of pastures used, such as timothy, bromus, wheat grass and the native grasses. One drawback is that it is a biennial so that each seeding will give but one year's pasture. This means changing the pasture each year, which requires more fencing than in the case of permanent pasture.

Cattle and sheep have been known to bloat on Sweet Clover but this is rather rare. To guard against bloat, give them a full feed of some other roughage before turning them onto the Sweet Clover for the first time. Under no circumstances should the stock be turned on when the sweet clover is wet.

SWEET PEAS

Sweet peas are one of the fine flowers and they do exceptionally well in North Dakota. They grow to a height of four to six feet so need a trellis to climb on. Poultry netting is fine for this. Protection from winds is also important. The Sweet Peas

should be planted as soon as the soil can be worked. Plant the seed in a trench 5 to 6 inches deep. Cover an inch or two and then fill the trench as the plants grow. The blossoms should be picked every few days. If left on till pods form the plants will stop blossoming.

THE TIME TO SOW FLAX

There are several things to consider in determining the time to sow flax. Professor Bolley states that the best crop is as a rule secured from early planted or late planted flax. By early he means about April 20th to May 10th, according to the season. Flax sown at this time will blossom before

ALFALFA

Get The Best

Buy Quality Seed From the Grimm Alfalfa Seed Producers' Association



Grimm Alfalfa is growing successful in the Dakotas, Grimm does not winter kill. It is making big returns. Farmers have marketed over \$50 worth of hay per acre and as high as \$200 worth of seed.

Our seed is only from REGISTERED fields of GRIMM alfalfa.

It is FREE from noxious weeds. It is SCARIFIED so all seed will grow. It is TESTED for germination.

Seed a third less per acre than if ordinary alfalfa is used. It takes one and one-half pounds per acre when seed in rows or a cost of 75c per acre. If seeded solid it takes five to seven pounds per acre or from \$2.50 to \$3.50 per acre. This is a low seed cost when the high qualities of our Grimm Alfalfa are considered. Money refunded on return of seed if it is not satisfactory.

Price of the seed in small lots	per pound.....	60c
10-pound lots or more per	pound.....	50c

Grimm Alfalfa Seed Producers Association of North Dakota

822 11th St. N. FARGO, N. D.

YOU SAVE from \$7.00 to

\$15.00

on every Saddle



The Celebrated Mueller Saddle.

Send for our Free Catalog from Maker to Consumer

THE FRED MUELLER SADDLE & HARNESS COMPANY

1413 to 1419 Larimer Street DENVER, COLORADO

READ THIS

There must be a reason why there is such a demand for Justin's Boots. If you are going to wear boots, why not wear the best? Yours for the Best Cowboy Boots Made. Send us your address on a postal card and we will send you our catalogue, and self-measuring system.

GIVE US A TRIAL

H. J. JUSTIN & SONS

Mfrs. of Justin's Celebrated Cowboy Boots. NOCONA, TEXAS



the extremely hot weather which seems to cause the flax to ripen too soon. The early seeded flax runs but slight risk from frost. The flax when just coming up and till a week old may be killed by a hard freeze, but this seldom happens and if it does there is still time to sow another crop. Flax sown about May 15th to June 1st usually makes the poorest crop due to blossoming in the hot weather. For the part of North Dakota south of the Great Northern railroad from Grand Forks to Williston late seeding, June 1st to June 15th, usually gives a good crop provided there is no early fall frost.

As indicated above, spring frost while flax is quite young, from one to three inches high, is apt to do very little harm, but the slightest frost after the flax is in blossom with bolls still green is sure to do great damage.

PRICES COMPARED

The first price given below is the average on April 1 this year, and the second the average on April 1 last year.

State: Wheat, 159 and 100 cents per bushel. Corn, 113 and 71. Oats, 51 and 32. Potatoes, 191 and 70. Hay, \$8.00 and \$7.00 per ton. Eggs, 27 and 17 cents per dozen.

United States: Wheat, 180 and 98.6 cents per bushel. Corn, 113 and 70.3 Oats, 62 and 42 cents. Potatoes, 235 and 97.6 cents. Hay \$13.05 and \$11.78 per ton. Cotton, 18 and 11.5 cents per pound. Eggs, 26 and 17.9 cents per dozen.

WHEN TO SOW SWEET CLOVER

Sweet clover may be seeded any time from early spring until the middle of July. It may be sown alone or with wheat or barley at the rate of 6 to 8 pounds per acre.

FLAX BEATS WHEAT

Flax in the years 1914, 1915 and 1916 averaged \$18.06 per acre while wheat averaged \$11.83. To secure the best results with flax use wilt-resistant varieties as the North Dakota Resistant No. 52 and No. 114. North Dakota No. 155 and No. 1215 are also good yielders. The seed should be plump, bright, and cleaned so that it is free from chaff and light seed. The flax should be treated with formaldehyde before seeding as follows: One pound of formaldehyde to 40 gallons of water, spray this onto the flax seed while it is being shoveled

over so that all the seed will be moistened. One-third to one-half bushels makes a good amount of seed to sow per acre. Early seeding as a

rule gives the best result as it gives the flax time to bloom before the hottest weather, which seems to be detrimental to the setting of seed.

STOP PAYING RENT

WORK FOR YOURSELF

ON A

Farm That Gives You a Living The First Year

Sanborn Makes The Start Easy

In Villas County, Wis., in the heart of the great North Woods Resort Country; Productive soil; Ready Markets; Good Transportation; and Easy Terms of Payment relieve you of that daily fight to meet the high cost of living and excessive rents, with no chance to save up anything for rainy days and old age.

SANBORN SELLS LAND AND SERVICE

A \$1400 farm with a new house, a milch cow, 2 pigs, 12 chickens and 2 acres of cleared land for \$250 down and no further payments for three years except taxes and interest at 5%. Other equally good offers.

Insurance protection gives your family the farm, free of debt, in event of your death. Trained experts to help you solve your problems. Credit assistance for worthy men.

FINE MARKETS AT YOUR DOOR

104 summer resorts take your fresh vegetables, poultry, eggs, cream, milk and butter at fancy prices making farms pay their first year.

Write TODAY for particulars about the Sanborn Way of helping the Settler
Sanborn Company, Eagle River, Wis.

20 Wisconsin St.

DURUM WHEAT WANTED

We are in the market for a few cars of choice

DURUM WHEAT also MILLET SEED

in either car lots or small shipments. Mail samples for our bid.

FARGO SEED HOUSE

Fargo,

North Dakota

Reboring and Grinding of Cylinders

**This is the time to fit up your steam engines and
gas tractors for the coming season**

We can rebores and grind your cylinders, fit new oversize pistons and rings, make and fit new crank pins, straighten shafts, bore and bush gears and clutches or do any kind of machine work. Refue boilers and replace stay bolts. We carry in stock all sizes of stay bolts, patch bolts, bracket bolts, rivets, boiler flues, stay-bolt taps and boiler taps, shafting, shaft hangers, cast iron pulleys, woodsplit pulleys. Write and let us quote prices on any work you have.

Craig Brothers, Fargo, N. D.

P. O. Box 295.

Telephone 554 W.

North Dakota Farmer

Entered as second class matter at the postoffice at
Lisbon, North Dakota

PUBLISHED EVERY MONTH

W. G. CROCKER : : **PUBLISHER**
Lisbon, N. D.

MANAGING EDITOR : **W. G. CROCKER**
ASSOCIATE EDITORS:
E. F. LADD **J. H. SHEPPERD**
O. O. CHURCHILL **C. B. WALDRON**
H. O. WERNER

Remittance may be made by draft, check, money
order, or stamps if it will accommodate.

Vol. 18 APRIL, 1917, No. 10

Help feed your country.

By cooperating with your neighbors you make a good investment in friendship, an investment that will yield ample returns in times of misfortune.

For oats disc or harrow the field under cultivation last year and drill the seed in at the earliest possible date. However, it will pay to take time to treat the seed.

Put your surplus eggs in a mixture of one part water glass and ten parts water. Use infertile, clean, but unwashed eggs, placing in solution as gathered. At least two inches of solution should be above eggs.

Trees are a good investment for the protection of livestock, if for nothing else. If you have no livestock, you probably will not care for trees—simply a lodging place from which to conduct your grain operations is enough.

It is a wonder that there are no more cheese factories in the state. Few realize the value of cheese as a food. Two ounces are equal in value to a quarter of a pound of meat. What has become of the home-made cheese?

Every farmer should keep account (1) of receipts and expenditures and (2) of work and production. For this purpose a common diary is all that is necessary. Better a simple record well kept than an elaborate one neglected.

The government predicts 10% less winter wheat than in 1916. Thus there devolves upon the farmers of the Northwest the task of raising the largest possible quantity of wheat by intensive rather than extensive cultivation. This section will in truth be looked upon as the "Bread Basket."

Does not the price of \$6, \$7 and even \$8 a bushel for beans look good to you? Potatoes and beans seem to be vying with each other for the high mark. Very few foods equal beans in nutritive value. It is hard to find a vegetable that will yield more for the time expended.

Why not have compulsory agricultural service? A man may serve his country at this time as honorably and as effectively in bringing this cruel war to an end as by serving in the field of battle. There is danger of our farms' being stripped of men unless others are provided to take the places of those called to arms.

So important is the selection of proper alfalfa seed that the growers of Grimm alfalfa seed have formed an association for the purpose of safeguarding the farmer against impure seed. There is no reason why an alfalfa field of pure seed should not be registered as well as livestock. Don't make the mistake of seeding alfalfa that is not acclimated and pure.

One pair of gophers this season means 4 pairs in '18, 16 pairs in '19, 64 pairs in '20, and 256 pairs in '21. The owner of a quarter section must enjoy raising grain for these "varmints," if he will not expend \$2.50 for poison and about a day and a half in spreading it. Send to the A. C. for the formula. Besides, the gopher tails are worth \$20 per thousand in bounty.

We have favored the Federal Farm Loan Act, being "thankful for small favors," but we would much prefer to have a law that will help the tenant farmer who has little to invest in land. Now a man must have accumulated considerable money to purchase, with the aid of the rural credit law, a quarter section. Let us have another law for the benefit of the tenant farmer.

Since our last issue Congress has in effect declared war on the German Imperial Government. Nothing has so impressed native born Americans more as the loyalty of foreign-born citizens to their adopted country. While they deplore the necessity of fighting against the people of their mother country, they are united in their denunciation of an imperialism that drove them to this country.

It is as necessary to know where the seed corn was grown as to know how it was bred. Those who have North Dakota grown seed are exceedingly fortunate this year. Those who have not should secure it if possible.

Too often the farmer has gazed in anger at the slim, earless stalks shooting heavenward carrying with them all his cherished hopes of a needed corn crop, as well as the money paid for the falsely advertised seed corn.

By all means let us not sacrifice our children in this struggle to supply the needed agricultural productions. Already some are advocating the employment of the children on the farms. Unless we keep the schools running the time prescribed by law and enforce the compulsory attendance law the children of the present generation will suffer an irreparable loss, simply because a few self-seekers can not keep their heads clear and their motives unquestionable. Taking the children from their studies is like "grinding the seed corn."

NEW WHEAT GRADES

On March 31 Secretary of Agriculture, D. F. Houston issued his announcement on official grain standards of the United States for wheat. On and after August 1, 1917, the following will be the standards of spring and durum wheats.

Hard Red Spring Wheat

Nos. 1, 2, 3, 4, 5 and Sample Grades for each

Dark Northern Spring.

Northern Spring.

Red Spring.

Red Spring Humpback.

Common and Red Durum Wheat

Nos. 1, 2, 3, 4, 5 and Sample Grade Amber Durum.

Durum.

Red Durum.

Better send to Department of Agriculture at Washington for this announcement entitled S. R. A.—Markets 22. It gives requirements for each grade.

SPECIAL OFFER

1. **Today's, North Dakota Farmer, Home Life and Woman's World, \$.90.**

2. **Reliable Poultry Journal, North Dakota Farmer, Housewife, and Woman's World, \$1.05.**

3. **McCall's, Woman's World, North Dakota Farmer and Boys' Magazine, \$1.30.**

4. **Ladies' World, Today's, North Dakota Farmer, Woman's World, \$1.20**

5. **Modern Priscilla, North Dakota Farmer, Woman's World, Today's, \$1.45.**

6. **Woman's World, Metropolitan North Dakota Farmer, People's Home Journal, \$1.55.**

A pattern with Today's or McCall's.

NORTH DAKOTA FARMER
Lisbon, - North Dakota

Livestock Department

FARM AND STOCK NOTES N. J. Shepherd

Persistence in the principle of selection develops a wonderful improvement in domestic animals.

In a horse symmetry of form is necessary for strength, correct proportion and perfect development.

With all stock the greatest excellence comes by careful selection of the fittest for the purpose desired.

The tendency to transmit acquired habits and increased capacities is one of the strongest laws of heredity.

The best dairy cows are those that will return the most value of milk for food consumed.

The profits of the great business concerns of the day are made in reducing the cost of production.

Butter is a condensed product. Nothing can be made or grown on the farm which brings as much per pound.

Compactness of form or an approach to it is always more important in the boar than in the sow.

In breeding animals individual merit should always be the first consideration but ancestry or pedigree should be a close second.

Sheep return more and better fertility to enrich the soil and distribute the same more evenly than any other class of stock.

Milk, unlike many other products from the farm, must be dealt with according to fixed rules or loss will come quickly.

The men who attain the highest success in any business always use the implements or machines best adapted to their uses.

The secret in producing cheap pork is maintaining a steady gait and a high degree of health and vigor from health to finish.

It is more important that you have a finished product that the market wants and will pay for than that it simply can be produced cheaply.

The value of a sire lies mainly in the possession of inherited prepotence which enables him with certainty to impress upon his progeny those characteristics desired.

The farmer who makes it a rule to annually change his brood sows can never hope for an increase in size vigor and other desirable qualities in his herd.

Because a cow gives a large quantity of milk it does not necessarily

follow that it is of poor quality, nor if she gives a small quantity that it is of good quality.

A serious defect in wool may not be strictly a disease, but it may be the result of a poor condition of the sheep due to some mistake or neglect in the management.

A low-producing dairy cow even of the most perfect type should never be depended upon to produce profitable offspring, for that unproductive taint in the blood will most surely appear somewhere down the line.

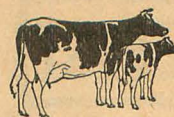
If proper care is taken the mare can safely be used in the ordinary work of the farm up to the time of foaling; but as this time approaches it is important that the weight be not heavy nor the pace rapid.

The separator should set on a solid base or foundation, so that there will be no jar or shaking about as it is turned such as would tend to interfere with the even flow of milk thru the bowl and thus destroy the efficiency in skimming.

The time that it takes to churn depends largely on the temperature of the cream at the beginning. If the cream is quite warm the butter will come very quickly; if it is too cold, the churning may have to be prolonged sometimes for hours before the butter granules will become large enough to free themselves from the buttermilk. Generally a warmer temperature in winter and a cooler in summer will be found best.

With all stock the animal selected for breeding should be a good individual and if in addition there is a long line of excellent ancestors upon both sides of his pedigree there will be good reason to expect that he will with considerable fidelity transmit to his progeny the true characteristics of his breed, those of his family and those of his individuality.

Purity of breeding on the part of the sire tends to render him prepotent and because of this prepotency it gives him the ability to effect an improvement. The lack of purity of breeding on the part of the dam takes away her power to resist change in the direction desired when mated with pure-bred sire; consequently dams of mixed breeding are excellent material upon which to commence the work of upgrading so far as blood elements are concerned.



Purebred Registered HOLSTEIN CATTLE

\$123,000 has been expended in the past eight years, by the Holstein-Friesian Association of America, in advertising the merits of the great "Black and White" breed. To the farmer who owns Holstein cattle, this far reaching publicity work is a positive benefit. The continually increasing interest in Holstein cattle thruout America makes for an advance in values, and the breeder of Holstein cattle, wherever he may be, reaps greater profits on the rising market prices of his stock.

Send for FREE Illustrated Descriptive Booklets
Holstein-Friesian Association of America
F. L. Houghton, Sec'y Box 267, Brattleboro, Vt.

ENVILLA STOCK FARM

Cogswell, N. D.
Will quote you special prices at any time on Angus Cattle, Feeding and Breeding Sheep, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens, turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

Bixby's Red Polls

My herd bull, J. D. Merryweather, No. 24396, is the son of J. D. Millie, A. R. Grand Champion cow at Minnesota and Montana, in the 1915 show-ring and won the milk and butter contest with Guernseys, Jerseys and Brown Swiss competing with records of 600 pounds butterfat. J. D. Millie weighed 1280 pounds at thirty months old, and is full sister to the World's Champion two-year-old heifer. J. S. BIXBY, : : LISBON, N. DAK.

HIGH GRADE Holstein Calves

12 HEIFERS 3 BULLS
Beautifully marked, 15-16 Purebred, 4 to 6 weeks old, \$18 a piece, crated, from heavy milkers. Safe delivery and Satisfaction Guaranteed.
FERNWOOD FARM
Wauwatosa, : : : Wisconsin

JEAN DU LUTH FARM
A. R. Guernseys and Red Polls!
Our Motto:
"Correct Type Together With High Production"
Our Herds number 270 pure breeds
Write for pedigrees of our \$200.00 bulls
Jean Du Luth Farm
Geo. P. Grout, Managing Owner
Duluth : : : Minnesota

Holstein Calves

10 heifers, and 2 bulls, 15-16ths pure, 5 weeks old, nicely marked and from heavy milkers \$20.00 each, crated for shipment anywhere. Edgewood Farms, Whitewater, Wis.

PERCHERONS

If you want a real good young stallion or mare you should come to my barn. You can buy at a lower price at the barn than anywhere else. All home raised and used to Dakota conditions. A square deal guaranteed.
Wm. Steinbach, : : New Rockford, N. D.

My Polled Durham Bull is Sold, but I will soon advertise some Polled Durham Yearlings. Watch for the ad. R. E. Strutz, Bismarck, N. D.

MISSOURI AUCTION SCHOOL
FREE CATALOG KANSAS CITY, MO.

BREED THE BEST

There can be but **One Best**
Why lose profits breeding and feeding scrub hogs?
Two of our Famous O. I. C. HOGS
weighed **2806 lbs.**
Will ship you sample pair of these famous hogs on time and give agency to first applicant. We are originators, most extensive breeders and shippers of pure bred hogs in the world. All foreign shipments **U. S. Gov't Inspected**
We have bred O. I. C. Hogs for 53 years and have never lost a hog with cholera or any other contagious disease.

Write today for Free Book, "The Hog from Birth to Sale" also True History of the Origin of the O. I. C.

THE L. B. SILVER CO.
544 Heights Temple Bldg. Cleveland, Ohio

CLASSIFIED ADS CONTINUED 1 Cent A Word

FOR SALE: Full Blooded French Draft Stallion Register No. 23156 National French draft horse association. Name of horse, Mignon. Foaled, April 21, 1909. Color, black; weight about one ton; pretty as a picture. Very good paper, also has 1917 N. D. License. Reason for selling, can't handle horse on account of other business. **E. H. Baumgart, Bergen, N. D.**

Choice High Grade Holstein, Shorthorn and Guernsey calves, nicely marked ones, crated to express at little cost, \$11.50 to \$35.00. Write Ed. Howey Co., South St. Paul, Minn.

SCOTCH COLLIES.—The Companion, farm, stock and watchdog, from the most noted working strains, Highborn Collie Kennels, St. Peter, Minn.

WANTED. Live Foxes, Skunks, Mink and Badgers, any time. **Envilla Stock Farm, Cogswell, N. D.**

To Close Out—My Bromus Seed, free from quack, \$9.00 per hundred delivered. You must hurry if you want it. **Wm. M. Moore, Shields, N. D.**

WANTED: Man to wear fine suit, act as agent. Big pay, easy work. **Banner Tailoring Co., Dept. 501, Chicago.**

BUYERS, see these bargains before you buy. Farms, businesses, any kind, anywhere. Send for free Magazine. **Western Sales Agency Minneapolis, Minn.**

WANTED: Position on Farm by man and wife by year or proposition farming on shares. Good Stockman. Reference, if required. **Earl Hecker, Killdeer, N. D.**

WANTED to hear from owner of good farm for sale. State cash price and description. **D. F. BUSH, Minneapolis, Minn.**

Oregon & California Railroad Co. grants lands. Title to same revested in United States by Act of Congress Dated 9, 1916. Two million three hundred thousand acres to be opened for homesteads and sale. Timber and agricultural lands. Containing some of best land left in United States. Now is the opportune time. Large sectional map showing lands and description of soil. Climate, rainfall, elevations, etc., postpaid, one dollar. **Grand Lands Locating Co., Bx 610, Portland, Oregon.**

WANTED—To hear from owner of farm or unimproved land for sale. **O. K. Hawley, Baldwin, Wisconsin.**

FOR RENT

Stock and Grain Farm in Burleigh County, North Dakota. This includes 900 acres under cultivation besides hay and pasture lands. Also several sections adjoining that could be broken for flax. For particulars, write **W. L. Watson, McKenzie, North Dakota.**

Free For Six Months. My special offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how \$100 grows to \$2,200; write now and I'll send it six months free. **H. L. Barber, 588.20 West Jackson Boulevard, Chicago.**

SHEEP THE ENEMY OF WEEDS

A Study of Three Breeds

The Cotswold

The typical Cotswold is a big-bodied, rather tall sheep, of stylish appearance. The color of the face, ears, and legs is white or white mixed with a little brown. The wool extends up over the poll and hangs in ringlets of varying length over the face. All over the body the wool hangs in long wavy ringlets that do not show in the same way on other breeds. Generally the thigh wool is hairy, tho the fleece as a whole is bright, and, on account of having no excess of oil, is light in shrinkage and sells well.

The Leicester

The Leicester is very easily distinguished from the other long wools

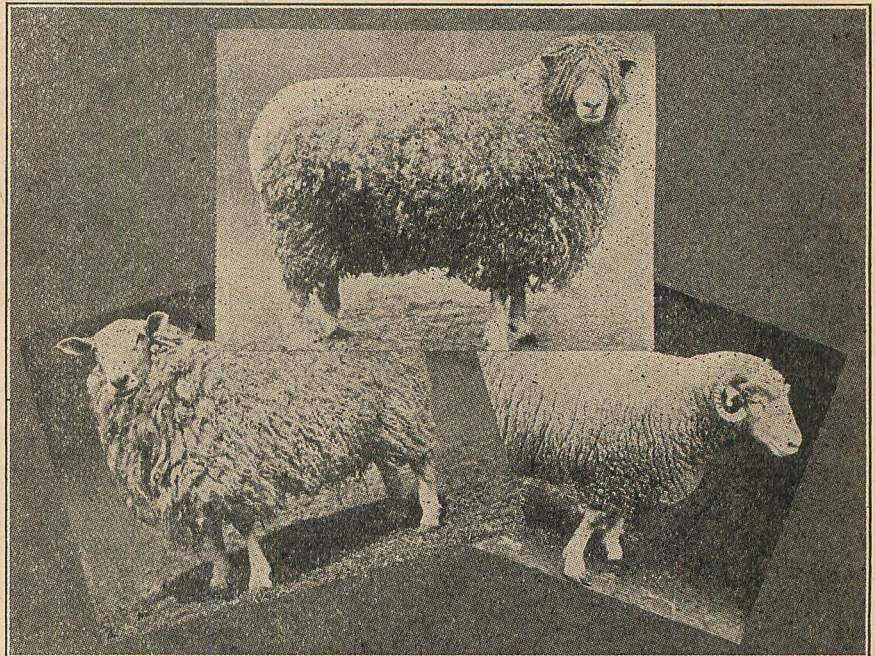
of wool. In the case of the Rambouillet there has been a greater effort to improve the mutton qualities.

The Dorset Horn

The Dorset is of the middle wool type, but is not a "down" breed. Both rams and ewes have horns. The faces and legs are white.

The type is one of a little larger and coarser frame, with less compactness than is found in the smaller down breeds. Openness of shoulder is quite common. The fleece is medium in closeness and length, and coarser than the Shropshire. There is little wool on the face and legs, and the belly is frequently short woolled or nearly bare.

The strong feature of the Dorset is the breeding habit. The breed was developed in a section where early



1. The Cotswold. 2. The Leicester. 3. The Dorset Horn.

by its lean and strong face. The nose is decidedly Roman and the head is bare of wool from the ears forward. The Leicester has a very wide and well covered back, but the depth of body is less than in the other long wools. This feature, with a strong tendency to lightness of belly wool, gives the breed a leggy appearance. The wool is finer and softer than that of the Cotswold or Lincoln, tho not always so thick upon the body.

Fine Wool Sheep

All fine wool sheep are descendants of earlier Spanish stock. The American Merinos have been bred nearly altogether for wool. Some breeders of the Delaine, or C type Merino, have bred to some extent for a mutton carcass in addition to fineness and length

lambs were desired and early breeding ewes were preferred. The ewes can regularly be bred to lamb in the fall. Two crops of lambs in one year are possible, tho seldom advised. Twins are quite numerous and the ewes are extra milkers.

CHOOSING BREEDS OF SWINE

Whichever One the Farmer Selects He Should Develop to the Highest Possible Standard.

To assist hog raisers and prospective hog raisers in determining the best breed of hogs to keep the United States Department of Agriculture has recently issued a new Farmers' Bulletin 765, Breeds of Swine. According

to this bulletin, there is no best breed of swine. Some breeds are superior to others in certain respects and one breed may be better adapted than another to certain local conditions. The essential point is that after the farmer has once decided upon the kind of hog to raise he should stick to his decision and develop the chosen breed to its highest possible standard. It is not feasible for one individual to raise several different breeds and bring them to perfection. In making his choice too, the farmer should be guided by the kind of breeds already established in his locality. If he selects one of these he is not likely to make a mistake.

There are two distinct types of swine namely, the lard and the bacon types. Swine of the lard type far outnumber those of the bacon type in the United States. The lard type is preferred by the people of this country, consequently the majority of feeders produce a rapid fattening, heavy fleshed lard type. The bacon type is not raised extensively in the United States. The production of choice bacon is more general in those sections where the feed of the hog is more varied and where corn is not relied upon as the principal grain for hogs.

The principal breeds of the lard type are the Poland China, Berkshire, Chester White, Duroc Jersey, and Hampshire. The lard type of hog is low set and compact, with a very wide and deep body. The shoulders should be full altho not coarse, with full hind quarters and hams carried out straight to the root of the tail and thickly fleshed down to the hock. The flesh should be thick and evenly distributed thruout the body.

The size and weight are largely determined by market conditions. At present pigs weighing from 175 to 250 pounds ordinarily command the highest prices.

The principal breeds of the bacon type are the Tamworth and large Yorkshire, both of British origin. The bacon type is very different from the lard type, being longer in leg and body, with less width of back, and lighter in the shoulders and neck. The first impression that this type conveys is one of leanness and lankiness. Much emphasis is laid on the development of the side, because it is the side of the hog that is used for the production of bacon. On the other hand, heavy hams are not desirable on a bacon hog.

Now is the TIME and this is the PLACE to buy

Shetland Ponies

FOR THE CHILDREN

Write your wants to

DR. J. A. H. WINSLOE, COOPERSTOWN, N. D.

PASTURE FOR PIGS

Pasture should by all means be provided for the pigs. This is the cheapest food that can be provided and good development in the pigs requires green food. Alfalfa is one of the best pastures. It is relished by the pigs, is nutritious and provides feed during the whole pasture season. Many report splendid success with Sweet Clover. Where neither brome grass or winter rye are available, oats, barley and rape can be sown in the spring and will produce green feed till the hogs can be turned into the corn. If no alfalfa is available on the farm for pig pasture this spring will be the time to sow it.

When the pigs are on pasture, they should be fed some grain, and the pigs will get along with less grain when on alfalfa than on most any other pasture.

FEEDING THE HORSE AT HARD WORK

The horse at hard work needs to be well fed. Mr. Peters claims that good oats is the best grain, but that the ration can often be cheapened by replacing one-fourth to one-third of the oats with corn, barley or bran. A 1400-pound horse will usually do well on 17 to 21 pounds of grain a day and an equal amount of hay. As the horse is larger or smaller feed more or less. Timothy hay is recognized as one of the best roughages for the work horse, but a good quality of upland hay, red top, clover or alfalfa can be substituted. Mr. Peters advises dividing the feeds as follows: Grain feed: morning—8 pounds; noon—8 pounds; evening—5 pounds; hay, morning—5 pounds; noon—5 pounds; evening—11 pounds. On Sundays or days when the horse is idle cut down the feed one-fourth.

MILK FOR THE NEW CALF OR COLT

The new calf or colt should have its mother's first milk. It possesses certain properties which help start the digestive apparatus and moves the bowels. The first milk has been called "nature's physic."

WATERING THE HORSE

The proper watering of the horse is important. Mr. Peters has made the following suggestions: A horse that is thirsty should be watered before being fed hay or grain, rather than after. The reason for this is that the stomach of the horse is comparatively small and if he eats a

heavy feed of grain or hay or both, and then drinks a large quantity of water a portion of the feed will be washed from the stomach into the intestines before it has been sufficiently acted upon by the digestive fluids of the stomach and colic is likely to develop. The regular practice should be to water before feeding.

CARE OF YOUNG PIGS

Provision should be made so that early farrowed pigs can take exercise after they are six or seven days old and they should begin to receive feed when about five weeks old. A thin mixture of shorts and skim milk is good. Care must be taken that it does not remain around long enough to become sour. If skim milk can not be had, water will have to suffice. In this case it will pay to feed the pigs some tankage till at least three months old.

A little whole wheat or rye is also good for starting the young pigs to eat.

BEST FARM PROPOSITION in Red River Valley. 95% under plow, with stock, machinery, feed, and 1917 crop put in the ground, from 160 to 960 acres according to your choice. Los Ellen, Niagara, N. D., Bx. 47, R. 1



RAISE YOUR CALVES
2¢
A DAY

Raise strong, healthy Calves at a cost of only 2¢ per day. Don't use whole milk at a cost of 20¢ to 30¢ per day and feed at a loss. **SELL YOUR WHOLE MILK!** Cow's milk varies, too, according to the animal's health, and often causes scours, whereas Prussian Calf Meal will not vary or scour.

Prussian Calf Meal
is, also, rich in vegetable matter, protein and fat, and is a real milk substitute. Only about one-fourth as much meal is required as a feeding as most other brands. Simply mix with water or separator milk.

If your dealer can't supply you, write to us. Money cheerfully refunded if not absolutely satisfactory.

TRY A 12-LB. PAIL TO-DAY!

PRUSSIAN REMEDY CO.,
Dept. A, St. Paul, Minn.



GET RID OF
Worms and Bots

You can remove every one of them. We guarantee to kill and bring from the body, dead, in a very short time, all pin worms and bots, with the safe and sure remedy.

NEWVERMIFUGE
Absolutely harmless. Can be given to mares in foal before the eighth month. Horse owners write us that Newvermifuge has removed from 500 to 800 bots and worms from a single horse. An animal that is wormy can't help but be ugly and thin. If your horses are troubled with worms send us your order today. Price \$2.00 for 12 Capsules. **BALLING GUN FREE** with 4 dozen \$8.00, with 2 dozen \$5.00. Postage paid.

Farmer's Horse Remedy Company,
Dept. B2, 592 7th Street. Milwaukee, Wis.



Poultry Department



The Poultry Pessimist

A pessimist is one who always sees the wrong side of things. He anticipates trouble. He is just the opposite of an optimist who believes that all things are for the best. He has a more grouchy nature.

There are any number of pessimists in the poultry ranks.

The man who does not look upon the bright side is the man who will be careless in his work. "What's the use" is his feeling in the matter.

The poultry ranks call for wide-awake people. There must be grit and energy displayed. When anything goes wrong the pessimist looks upon the cause as a failure. He always wants to change because he can see no good in what he has. It is this changing that gets things upside down.

There is a "silver lining in every cloud," but the pessimist does not believe it. He scorns the idea that stumbling blocks and failures are object lessons from which much good may arise. The optimist says it is all for the best, and the pessimist calls him a fool.

We do not know who originated the term "the blues," but surely it was not an optimist. He does not get discouraged. He has learned the lesson that to succeed one must stick. No success comes to the man who is always changing. The fanciers of today are the men who have taken up certain breeds and pay no attention to the others. Such men become experts. Practical poulterers, those who have been able to create a regular income, are the men who have taken up a certain line and are constantly at work upon it, using every effort for improvement.

Take your choice—be a pessimist and a failure; or an optimist and a success.

The Best of Birds

Let the others raise their ditties to the sparrows in the cities,

Let them prate about the peacock if they will;

Let them talk about the robin or the mournin' dove a-sobbin',

Or the blackbird as it whistles on the hill;

Let them sing about the jay bird, givin' praises unto that gay bird;

Let 'em boast about the linnet or the wren;

But I'm proud to say my charmer is the comfort of the farmer,
And I'll raise my little ditty to the hen.

If you're only out for beauty, it is probably your duty

To descant upon the bulbul in the tree;

Or, if wisdom's what you're after, then the owl upon the rafter

Quite the true and proper caper's said to be;

But it's usefulness I'm praisin', and my ditty I am raisin'

To the best and truest feathered friend of men;

And so here's to that great blessin', may her shadow never lessen,
Just the humble and hard-workin' barnyard hen!

—Selected.

Important Offices of the Egg

Aside from the value as food, the egg has other important offices to fill. For instance, a fishbone can be dislodged from the throat by having the patient at once swallow a raw egg. Nothing is more soothing and cooling for a burn or scald than to anoint with the white of a raw egg. It not only relieves pain, but prevents inflammation. A mustard plaster made with the white of egg will not leave a blister. For a boil, the white skin that lines the shell of an egg is useful. Beaten with loaf sugar and lemon, the white of an egg relieves hoarseness. A teaspoonful should be taken every hour. A delicious and toning cup of coffee can be had by adding an egg. For bowel troubles, a partly beaten raw egg taken at one swallow is excellent. It is healing to the inflamed stomach and intestines, and relieves that feeling of distress. Four eggs taken in that manner during twenty-four hours, is not only a good medicine, but very nourishing. The white of a raw egg is the most reliable of pastes. If dipped in the white of an egg, papers intended to be put over tumblers of jelly and jam will hold securely and be air tight.

A Little Duckology

For a pound of feathers it requires the plucking of ten ducks.

The best quality of market ducks are white-skinned. Yellow-skinned carcasses do not sell so well.

It is cruel to pick live ducks.

Ducks should be handled by the neck, never by the legs or wings.

Fattening ducks should not be allowed bathing water.

Exposure to a hot sun is fatal to young ducks.

Approaching a pen of ducks at night with a lantern is sure to create a panic.

After ten weeks of age the weight of a duck is more apt to decline than increase.

Confectioners claim that duck eggs are superior to hen eggs for their line of goods, as they put glaze to their icing which the latter do not.

A breeding duck will cost its owner about two dollars per year for food.

Notes in Passing

Drawn fowls usually have the head removed, and this should be done at first.

A sudden death without any apparent signs of illness, is caused by apoplexy, due to an overfat condition.

Indigestion is very often taken for cholera, especially by amateurs. It is

Both Machines \$
Freight Paid **Only 10**

WINNERS IN BIG HATCHING CONTESTS EVERY YEAR

Think of it! These two UN-
BEATABLE Wisconsin Machines—
both for only \$10
—freight paid east
of Rockies. Guaranteed 10 years and
sold on 30 days trial—

**130 Eggs
130 Chicks**

30 Days Free Trial

MONEY BACK IF NOT SATISFIED

Wisconsins are made of genuine California Redwood. Incubators have double walls, air space between, double glass doors, copper tanks, self-regulating. Shipped complete with thermometers, egg tester, lamps, etc., ready to run. Biggest incubator bargain of the year. Send for our new 1917 catalog fully describing this outfit. A postal brings it by return mail.

180-Egg Incubator and Brooder both \$12.75
WISCONSIN INCUBATOR COMPANY
Box 42, Racine, Wis.

Did You Have "Good Luck"

With Your Chicks?

"Luck" with chicks starts with the incubator. If it is properly heated, properly regulated, and properly ventilated, your chicks will start off with vitality. They won't come out of the shell half dead. So many people trust their eggs to a cheap machine, forgetting that it is not only how many you hatch that counts, but how many live and grow.

Start Your Chicks With a Queen Constitution

The Queen has a reputation for hatching strong, healthy chicks. It is built of genuine Redwood—very scarce in these days of cheap substitutes. Redwood does not absorb odors from the hatching eggs. Cheaper woods, and pasteboard lining in iron and tin machines, retain the odors to weaken and kill the hatching chicks.

Queen incubators are not cheap, but they are built to hatch big hatches of chicks that live. Book sent free. Queen Incubator Co., 1193 N. 14th St., Lincoln, Neb.

Capital Incubators

Save You Money
We don't advertise big, but we build Incubators, Brooders, etc. that are used by leading poultry men, by State Experiment Stations, and sell at lower prices. It will pay you to get our free catalogue.

Capital Incubator Co., Dept. T, St. Paul, Minn.

claimed not to be cholera unless accompanied by a great thirst.

Fowls that can exercise during molting season are generally the ones that get thru the ordeal without any serious trouble.

In Scotland, ailing young turkeys are given a drop of whiskey; in France they get a teaspoonful of wine. We presume in Germany lager beer is recommended.

It will usually be found more satisfactory to kill and bury the sick birds than to undertake to treat them.

The domesticated breeds of turkeys are the Bronze, White Holland, Narragansett, Black, Buff and Slate.

The well-fed pullets are early layers, provided, of course, they have not been fed on a too-fattening ration.

Our neighbors keep almost as many hens as we do. They supply their table with eggs—purchased from us. Reason: they feed an exclusive corn diet while we feed mostly wheat and oats.

If you place your ear close to the body of a fowl at night, while on the roost, you will hear the grinding of the food in the gizzard.

The way to master the poultry business, is to begin mastering the numerous details step by step.

Never use harsh methods in breaking up a broody hen; very often such handling cripples the hen for future usefulness.

See that the drinking vessels are kept clean. Do not allow the scum to accumulate on them as that in itself will cause sickness.

We do not believe that contagious diseases in fowls can be entirely cured. We believe that if contagion roots itself it cannot be eradicated, although the bird may seem all right. The trouble will transmit itself to the offspring.

The principle causes for disease are poor houses, dampness, filth and improper feeding.

Overfat not only debilitates the fowls, but impairs the action of every organ in the body.

Impure drinking water is as dangerous to the health of the fowls as is musty food.

Dressed poultry, except ducks and geese, is best packed in barrels.

During hot weather it is just as well to omit the noon meal.

Flavor the egg with sweet, wholesome food.

Constipation is caused by too much concentrated food.

A fowl with a weak heart is apt to succumb from intense heat.

Breed for winter eggs—therein lies the profit.

It is always advisable to gather eggs several times a day.

Some of the commonest poultry diseases are catarrh, roup, gapes and leg weakness.

A great deal of deception is daily practiced in the egg business, especially by the middle man.

We have seen it stated that certain soils seem to be more conducive to scaly legs than others, and that the clayey kind should be avoided.

Too-fat is no disease, but it is an unhealthy condition. Many diseases and troubles can be laid to over feeding.

Never market a bird that shows the least signs of illness. In other words, never send to market a bird that you would hesitate to eat yourself.

HOW TO SET A HEN

As the time approaches for the hen to become broody or sit, if care is taken to look into the nest, it will be seen that there are a few soft, downy feathers being left there by the hen; also the hen stays longer on the nest when laying at this time, and on being approached will quite likely remain on the nest, making a clucking noise, ruffling her feathers, and pecking at the intruder. When it is noted that a hen sits on the nest from two to three nights in succession, and that most of the feathers are gone from her breast, which should feel hot to the hand, she is ready to be transferred to a nest which has been prepared for her beforehand. According to the poultry specialists of the United States Department of Agriculture; the normal temperature of a hen is from 106 degrees to 107 degrees F., which varies slightly during incubation.

Dust the hen thoroly with insect powder, and in applying the powder hold the hen by the feet, the head down, working the powder well into the feathers, giving special attention to regions around the vent and under the wings. The powder should also be sprinkled in the nest.

The nest should be in some quiet, out-of-the-way place, where the sitting hen will not be disturbed. Move her from the regular laying nest at night and handle her carefully in doing so. Put a china egg or two in the nest where she is to sit, and place a board over the opening so that she can not get off. Toward the evening of the second day quietly go in where she is sitting, leave some feed and water, remove the board from the front or top of the nest, and let the hen come off when she is ready. Should she return to the nest after feeding, remove the china egg or eggs and put under those that are to be incubated. If the

nests are slightly darkened the hens are less likely to become restless. At hatching time they should be confined and not be disturbed until the hatch is completed, unless they become restless, when it may be best to remove the chicks that are hatched first. In cool weather it is best not to put more than 10 eggs under a hen, while later in the spring one can put 12 or 15, according to the size of the hen.

S. C. R. I. REDS

EGGS FOR HATCHING

\$2. per Setting of 15

Pen Headed by Second Prize Bird at State Show, 1917

W. L. DIVET. LISBON, N. D.

FOR SALE: Cockerels and Eggs. Eggs from thoroughbreds. Turkeys, Geese, 7 kinds of Ducks, Pearl and White Guineas, Bantams, Leghorns, Houdans, Hamburgs, Games, Minorcas, Cochins, Buff and White Orpingtons, Silver Laced and White Wyandottes, Barred, White and Buff Rocks, Light Brahmas, Langshans, Rhode Island Reds, Hares, Rabbits, Fancy Pigeons, Guinea Pigs, Dogs. Write wants. D. L. Bruen, Platte Center, Nebraska.



62 BREEDS, Pure-bred Chickens, Ducks, Geese, Turkeys. Hardy, northern raised, vigorous, beautiful, Fowls, eggs, incubators, at low prices. America's Pioneer Poultry Farm; 23 years exp. Large fine Annual Poultry Book and Catalog Free. F. A. NEUBERT, Box 689, Mankato, Minn.

EGGS for Hatching from our prize winning Rose Comb Brown Leghorns, Rose Comb Rhode Island Reds and Single Comb Black Minorcas. \$2.00 per 15. Peter H. Levey, Fountain, Minn.

EGGS. PURE BRED S. C. W. Leghorn. Golden, White, Partridge, and Silver-laced Wyandottes. Rose Comb Island Red. Guineas. Runner and Pekin Ducks. Setting \$1.25; 100, \$6.00. B. Turkey, nine \$2.50. All eggs prepaid. **JOSIE ZENG**

Walnut Grove, : : : Minn.

White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. **MICHAEL K. BOYER, Box 27, Hammononton, New Jersey.**

FOR SALE. Purebred Barred Rock Hatching Eggs, \$1.50 and \$2.50 per 15; \$7.00 and \$11.00 per 100. No cockerels left. **Laurel Hill Farm, Westby, Mont.**

Hatching Eggs from a good strain of Pure Bred S. C. Rhode Island Reds, 15 for \$1.50; also a few Cock Birds and Cockerels for sale. **E. N. Hedahl, Mercer, N. D.**

3 Rose Comb Red Cockerels, \$2.00 each. 1 Rose Comb Brown Leghorn Cockerel \$1.50. Peter H. Levey, Fountain, Minn.

FOR SALE. Well Bred Up R. C. Reds. First prize winners; cockerels, \$1.25. **Mrs. John Henderson, Bx 228, Beulah, N. D.**

PUREBRED BARRED PLYMOUTH ROCK eggs. One setting of 13, \$1. 100 eggs, \$6, prepaid. **Orto L. Albertson, Nunda, S. D.**

Single Comb Reds. Layers, Winners. Eggs \$1.00, \$2.50, \$5.00, fifteen. **F. T. Howlett, Des Moines, Iowa.**

White Langshan eggs, \$3.50 setting, F. Runner Ducks \$1.50 setting. **Selma Shanander Dayton, Iowa.**

FOR SALE. Silver-Laced Wyandottes. Eggs and baby chicks **Mrs. Thos. Brady, Lansford, N. D.**

Quality White Rocks

Hatching Eggs and Stock in season. We have the Best. **O. A. Barton, Valley City, N. D.**

School and Home



Miss Ura Leader,
Ruraldale, N. D.

Dear Miss Leader:

Are you not glad that the school year is nearly over, and all you have left is to discuss birds, forestry and roads. How I would like to see a bird today!

Maybe I would not enjoy lying in the shade of a wide-spreading tree, and do nothing but just lie and make observations on the cunning little birds.

I know that you will soon have the pleasure of pulling your feet out of the mud on the way to school. Perhaps you will have to swim a few ravines. It will be sort of tough when the roads are too poor for you to use your six-cylinder car.

Let's boost for birds, forestry and good roads. Resolutely face the enemy and "Fire at will." No doubt you went thru this last year, and the year before and the years before that. But persevere, you will finally be rewarded in heaven.

"As the twig is bent so grows the tree." The present generation are the pioneers. The coming generation will do what the early settlers could not do. This is already showing in the school houses and in the civic pride of most our cities and towns. Each generation will have the foundations laid by those gone.

We may not live long enough to see the results of our labors, but no energy put to a good purpose is lost. Do not become discouraged with the coming of spring. The children will be restless and there will be times when nothing seems worth while, but it is no idle speculation to say that good deeds well done are not wasted.

Birds are of great importance to the farmers. They consume vast amounts of insects and weed seeds. In fact most of our birds live almost entirely on insects. Birds offer a fine opportunity for work outside the class room. Close school a little early when the children are unruly and take a trip observing the birds, their habits, and their peculiarities.

Send to the A. C. for a copy of "Guide for North Dakota Bird Study." The United States Department of Agriculture has, Farmers Bulletin No. 513, Fifty common birds of farm and orchard. Farmers' Bul-

letin No. 630 Some common birds useful to the farmer. These may be obtained free.

You can get colored pictures of birds for one or two cents apiece. The National Association of Audobon Societies has published many leaflets. Why not have some of these in your library. Birds are worth many thousands of dollars to the farmers of the state every year. You can take up their study without considering the time wasted.

With more trees in the state, more birds will summer here. Many kinds of birds will not live on the prairie. Forestry is important in this respect as well as for the many other benefits derived.

No one at this time knows how valuable trees will be to North Dakota as a whole. From the standpoint of wood production they are more profitable than wheat for a given area. They diminish the wind velocity, and prevent evaporation. They will afford pleasant shelter for stock. Trees will adorn the farm and make the home more of a home.

Trees may be grown in all parts of the state. There are many kinds which are entirely successful. No one can truthfully say that trees will not grow in North Dakota. Why not get several of the bulletins on this subject from this station.

The building of good roads is a community affair. Their value can hardly be over-estimated. Did you know that it costs more to haul one bushel of wheat a few miles in the country than it costs to haul it from New York to England by boat. Poor roads sap the very life of the country.

In order to get a clear idea of the importance of good roads let us mention some of the different items:

1. They reduce the cost of marketing.
2. They make neighbors and towns nearer.
3. They make sociable affairs possible.
4. They save buggies and wagons.
5. They save breakage on machinery.
6. They reduce draft, saving horses.
7. They add to the value of the land.

Much can be said about these items. It is not necessary for you can fill in the outline. Earth roads will be very satisfactory if properly made and worked. Most of North

Dakota can have good roads and at little expense.

Have your pupils make observations on the condition of the roads and the effect on travel. The town that has the best roads will get the biggest trade. People will be more friendly where there are good roads. Good roads are the very foundation of community centers.

Sincerely,

O. O. CHURCHILL

ROADS ON THE FARM

Should Be Located with Reference to Efficiency of Farm Plant—Construction and Maintenance.

The private roads on the farm differ in general from the public roads only in the amount and kind of traffic which they carry. The fundamental principles involved in their construction and maintenance are the same. But, as the farm road is called on to bear far less traffic, the ordinary methods of construction and maintenance are so modified and the use of materials so adapted as to meet the special requirements and reduce the cost. To build the farm roads in the same manner as public thoroughfares, which carry much greater traffic, in general would be a useless waste of money.

The first consideration is the location of the roads and paths about the farm. The roads and paths are a part of the permanent farm plant. Consequently they should be so located as to best serve the purpose for which they are intended, should fit in with the general scheme of the farm, and at the same time should avoid as much as possible places which would require difficult and expensive construction or maintenance. The main consideration, however, must be to secure the highest degree of efficiency from the farm plant as a whole.

The earth road is the most common type of farm road and will probably so remain. When properly crowned, drained, and maintained with the split-log drag or other similar device, the earth road, on all but a few exceptional soils or in a few places immediately around the farm lots and buildings, can be made to answer the requirements fairly well. A little grading will in general give the earth road a crown sloping from the center toward the side ditches at a rate of about 1 inch to the foot, and side ditches of sufficient size to carry away the storm water can usually be constructed without difficulty. If the ground is springy the side ditches may be made deeper, or the ground water may be carried away by the tile drains.

The fundamental requirement of an earth road is always good drainage. This involves, first, the removal of the water which reaches the surface of the road from precipitation or otherwise; and second, in certain places the removal of any ground water which reaches the road from underground seepage. Surface drainage is accomplished by securing a reasonably firm crowned roadway and providing ditches of sufficient size and with ample grade and frequent outlets. Sub-drainage to remove the water from beneath the road surface or to prevent its passage into the roadbed is usually accomplished most effectively by so-called blind drains or by means of properly located tile drains.

Roads and drives immediately around the farm yards and barns which are used very frequently are usually of sufficient importance to warrant some surface improvement. Very light or extremely sandy soils cut up badly in dry weather, while certain heavy and absorbent soils become very sticky and soft during the rainy season. Where any considerable amount of hauling is necessary, roads over soils of this character may require to be surfaced.

Many of the materials ordinarily employed in road construction will be found too expensive for use in improving the farm roads. One or more of the following will, however, usually be found available and within the means of the farmer for surface his roads and paths: Gravel, mixtures of sand and clay, cinders, brickbats from old buildings, brick-yard waste, and quarry waste. The material selected should, however, be hard enough to withstand crushing under heavy loads and possess sufficient binding power to compact well and maintain a firm, hard surface under all ordinary weather conditions.

Drainage and a good foundation are the first considerations in improving a road with a hard surface. The best possible foundation is a good earth road with a low crown. Earth shoulders may be graded upon each side to prevent the surfacing material from spreading, as in the construction of an ordinary macadam road. The material used for surfacing should be placed in a uniform layer or layers on this foundation and should be given a sufficient crown to shed the rain waters to the sides. If a road roller can be secured the material may be quickly consolidated, otherwise considerable time will be required for it to be consolidated by the traffic. During this process the road should receive frequent attention with a split-log drag or other means for smoothing the surface and filling the ruts.

On steep grades where there would be a tendency for the side ditches to wash, this can usually be overcome by providing outlets and getting the water away from the road before it accumulates in large volume. On roads where wagons will not be required to pass each other, width of from 9 to 12 feet between ditches will usually be sufficient. The surfaced portion need rarely exceed 7 or 8 feet. There is no particular virtue in building a farm road wider than is necessary to answer the special traffic requirements. The need or desirability of moving occasionally extra wide or heavy implements, such as certain harvesting machinery, over the roads should, however, not be lost sight of. A little foresight in the alignment of ditches, in providing ample width of gates, or of giving extra strength to culverts, may save a great deal of annoyance and delay.

For surfacing footpaths, gravel, mixtures of sand and clay, and cinders will, in general, give good satisfaction. In surfacing a path with any of these materials it is well to have in mind that the service the path is to perform is to provide a firm, smooth, and dry surface for pedestrians. To provide a firm surface the material selected must bind well under all conditions of weather, and to remain smooth and dry a reasonably unyielding foundation should be provided and the drainage must be good. Too often the mistake is made of building the path so low that it becomes a drainage channel in wet weather. The path should *always* be slightly above the surface of the ground, or else gutters of sufficient size to carry the water should be provided. Concrete makes a most excellent walk and is now widely used for this purpose.

Some of the Simplest Principles in Agriculture

By Chore Boy

Birds

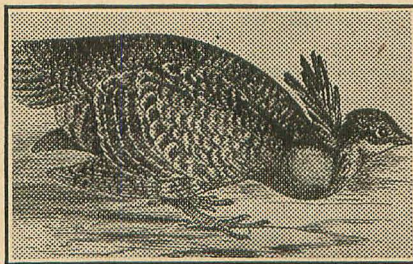
BIRDS keep down insects. A robin feeding her young has been seen to carry more than 200 grubs and worms to the nest in one day. The birds should be given every encouragement. Many birds like the protection of trees, and will only make their home in trees. Tree planting will attract these. Others live on the prairie. One of the greatest enemies of the birds is the cat. Cats prowl around nights

at sight. It will afford a good deal of pleasure and by close observation one will learn the value of the work they do in eating insects, worms, weeds and seed. Some of the birds will eat some grain and fruit, but this forms but a small part of the birds' diet. Even the hawks and owls are useful. They live largely on gophers, mice and other animals that are no help to the farmer.

It is certainly fortunate that nature has provided the birds with a liking for insects and then they need a good deal of food so that they eat more in proportion to their size than other animals.

Tree Growing

In North Dakota tree growing will be principally from the standpoint of protection from wind and for ornamenting the home grounds. This will result in stove wood, poles, posts and in some cases saw logs will be produced. The big thing to keep in mind in tree growing is that the tree needs moisture to grow and that this moisture first comes down as rain. If grass and weeds are growing near the tree they will get the first chance at the moisture as their roots are nearer the surface than the tree roots. The result is that the tree suffers. The roots of the tree likely extend out further than do the branches. Clean cultivation is the best method of caring for the trees in order to secure a rapid and thrifty growth. In fact it is really surprising to see how fast trees will grow in North Dakota when



Prairie Chicken: Raised by the Farmers for the Sport of Hunters.

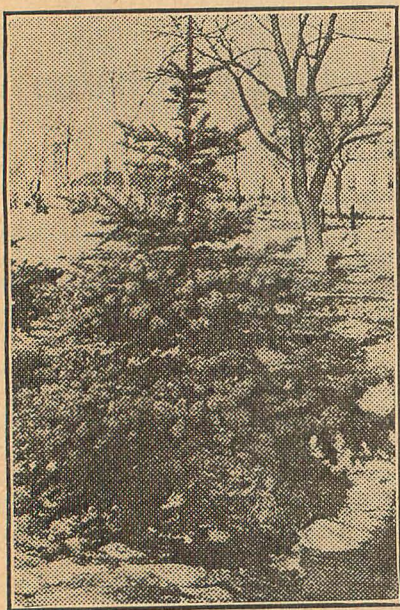
when they are not seen. They like birds and as they are expert tree climbers no birds are secure from them. Even the house cat that seems so gentle, that lies around in the day time napping, has been observed to make most vicious assaults on the birds and especially at nesting time, catching the old bird on the nest, and in other cases eating the young birds. Study the birds to learn to know them

the ground over their roots is kept free from grass and weeds.

A good plan of planting is to put the trees two feet apart in rows 8 to 10 feet apart. Some prefer to put them four by four feet, and claim for this method that the trees will in two years shade the ground enough so that cultivation need not be kept up any longer.

Green ash should be one of the main trees to plant. Elm will do well, the box elder is a rapid grower and makes a dense shade. It is often alternated with ash and elm and then cut down in eight to ten years so as to give the other trees the room.

The willow makes the best wind and snow break. A row or two should be planted outside the other trees so as to close up the space near the ground. This is the most effective way of stopping snow.



Colorado Blue Spruce.

Some evergreens should always be included in the tree planting. The evergreens are ornamental and they also form a very effective snow break. The Bull pine is a native in North Dakota so is a good variety to plant. The Black Hills Spruce is also hardy and makes a fine tree. Red cedar is also a native in the state. The Blue Spruce is one of the most ornamental of the evergreens and is hardy in North Dakota.

The big point to remember in tree growing in North Dakota is that the trees need moisture and the best way to provide this is by clean cultivation and the cultivation should extend out beyond the reach of the branches.

Road Making

Roads are to the farm what the railway is to the town. A railway, that would be impassable part of the

time or that would not allow of more than the locomotive to pass over it in certain seasons, would not serve a town very well while that kind of a wagon road is taken as a matter of course. Road making is simple in North Dakota compared to where the rainfall is greater and where the winters are warmer.

The control of the moisture in the road bed is the important thing. Too much of it makes mud—too little of it, dust. With the right amount of moisture, the soil packs hard.

The first step in the moisture control is drainage, in case the lay of the land is such that water will stand along the road bed. The surface of the road bed should be at least 18 inches above standing water in order to make a solid surface.

The second point in the moisture control is to keep the surface well packed and crowned. This allows excess moisture to run off, which prevents ruts forming. The ruts when worn down, form dust. The well packed crowned road bed will hold

Home Garden Patriotism

MAKE HOME GARDENS AND BACK YARDS PRODUCTIVE

Make Every Square Yard of Fertile, Sunny Soil Produce Food for Your Family.

Make your ground work for you and the nation. Idle ground is waste; this is no time for waste or idleness.

You can raise some vegetables for your family no matter how small a piece of ground you have.

If You Can't Raise All Your Own Vegetables, At Least Raise Some.

All idle ground utilized in the production of vegetables means more food for those who have no ground at all.

There are patriots of United States soil as well as patriots of the battle field.

SOMEBODY HAS TO RAISE EVERYTHING YOU EAT DO YOUR SHARE

Keep Your Soil Working All Season

1. Keep your garden working all season. Hasten early crops by starting seed in boxes in the house, in hotbeds and cold frames if the weather prevents outdoor planting.
2. Get your ground ready for planting as soon as the soil is dry enough to work.
3. Plant for early crops as soon as the weather permits. Make successive plantings of lettuce, radishes, beans, and other short season crops.
4. Start new crops between the rows of plants that are soon to be removed.
5. As fast as the ground is cleared of one crop start a new crop.
6. See that your garden toward fall is full of potatoes, beets, turnips, cabbage, and other staple foods that can be stored for the winter.

Your Children, Too, Can Help.

Boys and girls can help to make the soil in your gardens, back yards and vacant lots produce food for the family. Last year they raised in their gardens and helped to can more than 4,000,000 packages of valuable food. We predict even a greater production in 1917.

Save All Surplus Fruits and Vegetables.

If your garden at any time produces more than you can use immediately do not allow the surplus to spoil.

Can surplus beans, peas, corn, tomatoes, beets, spinach, pumpkin and squash for winter use.

Can or preserve apples, peaches, pears, cherries, quinces, berries, and other cultivated and wild fruits.

Every can of vegetables or fruit and every jar of preserved food means that you have saved food materials that would have otherwise been wasted.

Can or store root crops, cabbage, and other vegetables properly so that they will keep well and supply you with food when the garden ceases to produce.

Learn How to Grow and Can Vegetables

The U. S. Department of Agriculture, Washington, D. C., or your State agricultural college or county agent will give you explicit directions for raising vegetables, and will tell you simple methods for canning vegetables and fruit at home with ordinary home utensils.

DEMONSTRATE THRIFT IN YOUR HOME Make Saving, Rather Than Spending, Your Social Standard.

just the right amount of moisture to pack well. If it is not well packed, it takes in too much water.

The third point in moisture control is to keep down weeds. These, if allowed to grow near the road bed, will send their roots under the road bed and remove the moisture that serves for binding the soil particles together. The weeds, unless cut, will also cause the snow to drift on the road bed.

The road bed should not be shaded too much with trees as that delays the drying and hence more loosening of the surface results and that means more dust.

Another point to remember is that soil can be worked much more easily when it has a fair amount of moisture in it and can be well packed too.

Enough work is put on many North Dakota roads to have them in first class shape, but the work, not being done in accordance with the principles of good road making, is largely wasted.

GOURD, TOMATO-CAN AND OTHER SIMPLE HOUSES WILL ATTRACT DESIRABLE BIRDS

An ordinary tomato can with a circular piece of gourd tied in one end will make an excellent house to attract bluebirds or wrens. The board should have a hole in its upper half to serve as an entrance and the can may then be hung by wires to the limb of a tree or fastened to a crotch. A farmers' bulletin (No. 609), entitled "Bird Houses and How to Build Them," has been issued by the U. S. Department of Agriculture, and in it are outlined plans for bird houses of all descriptions from the simple tomato-can house to a most elaborate martin house with doors that open and close.

Many birds that are economically valuable, says the new bulletin may be attracted to particular localities by the construction of bird houses. The importance of birds as insect destroyers is being more appreciated every year and as a result there has been a decided movement to protect and make neighbors of them. Many birds, if furnished a safe retreat, will more than pay their rent to their landlords.

The tomato can may be used in another manner to attract the desirable wren or bluebird. One end may be removed and the can may be superimposed on a post of the same size and fastened securely by pressing it down. A hole should be cut in the side to permit the bird to enter. This tomato-can house, as well as the other one described, should always be put in a shaded place, as the metal becomes very hot in the sun.

Beautify The Home

Let us Co-operate with You

12 Hardy Perennial Flowering SHRUBS FREE!

By far the most magnificent collection ever offered. Providing a veritable sea of ever-changing, fragrant bloom from the earliest spring, through the summer, fall, and to the very edge of winter. With ordinary care, they will bloom the same year planted.

2 Golden Bell — Forsythia

These splendid old shrubs, growing 8 to 10 feet tall, light up the garden with glinting masses of yellow, very early in the Spring before the leaves appear. Their bright golden flowers, often appearing before the snow has gone, vie with the Crocus as harbingers of Spring.

2 Thunberg's Barberry

Inimitable neat, dense and very graceful. Spherical in shape. Its brilliant yellow flowers, which appear early in the spring, are followed by vivid scarlet berries which remain throughout the winter. Its deep green foliage changes in the fall to scarlet and gold. Grows 3 to 4 feet high.

2 Deutzias One Pride of Rochester One Crenata

These valuable shrubs come from Japan. Very hardy, with luxuriant foliage, and a profusion of massive white flowers 4-6 inches long. The Crenata is double white, tinged with rose. The Pride of Rochester grows 6 to 8 feet high, and blooms in May, before all the others.

2 Sweet Shrub — Calycanthus

A very beautiful shrub of quick growth. The wood is fragrant, the foliage rich, and the flowers, deep chocolate red, have a peculiar spicy fragrance. Grows 4 to 5 feet high. Blooms in June, and at intervals until frost.

2 Snowball Hydrangeas

A grand addition to the summer flowering shrubs; dwarfing the show of other sorts in July and August by the magnitude and profusion of its flower heads. The "snowballs" are conspicuously white and imposing. Grows about 6 feet high. Very hardy.

2 Rose of Sharon

Blooms from late August until winter with a profusion of large, brightly colored flowers. Makes the most gorgeous show of color to be found among the deciduous shrubs, at a time when few flowers are in bloom. Attains a height of 10 to 12 feet.

These twelve shrubs, full one-year size, will be sent to you at once, with full instructions for storing until planting time, and for planting. If you prefer, we will instruct the nursery to store the shrubs, and send them to you at the right time to plant. All charges are prepaid. They are delivered FREE to your mail box.

Send only 75 cents in money order, check or stamps to the North Dakota Farmer, Lisbon, N. Dak., and you will receive this collection, post paid and the North Dakota Farmer, one year. Address,
NORTH DAKOTA FARMER, - - LISBON, N. D.

Ordinary wooden boxes, if clean, can be made into simple bird houses by merely nailing on a cover and cutting out an entrance hole. Such make shifts are rarely weatherproof and are never pleasing to the eye.

Branches containing real woodpecker holes, when obtainable, are perhaps the best attraction that can be offered most house birds in the breeding season. By carefully fitting such a branch to a fruit or shade tree its foreign origin will scarcely be noticed.

A House for Swallows

A house especially for the use of swallows may be set on a pole or tree stub. The house is a simple box-like structure with a gable roof. The foundation, floor and posts are first put in position and then the four sides which have been already fastened together with the gable roof are placed over the floor and posts. A small circular hole just under the gable permits the bird to enter. This house can be cleaned by simply lifting the box from its base.

Design for Sparrow Hawks and Screech Owls

A house that looks something like a mail box, and which may be fastened to the side of a tree, is particularly suitable for sparrow hawks and screech owls. Bluebirds and wrens, who do not seem very particular about what habitation they occupy, may also use a similar house. Its bottom can be removed by turning a button.

Woodpecker Box

Another house that also resembles a mail box, but has a gable roof where the screech-owl dwelling has a flat one, is designed to be placed on top of a post or stub of a tree rather than fastened to its side. Such a house has proven attractive to flickers. The roof may be lifted off just as a stopper is removed from a bottle.

Bird houses may be made more or less elaborate according as the human landlord has time and inclination to put on their construction. Many bird lovers take great pleasure in arranging, planning, and building elaborate habitations for birds, and such may receive valuable hints for the construction of an attractive three-storied martin house from the Department's new bulletin.

The English sparrow, whose attacks often drive other birds away from the neighborhood, will not be encouraged by the careful landlord.

There are other undesirable prowlers that seek to injure desirable feathered tenants and must be watched by the careful landlord. Cats and large snakes are enemies of birds, the

former perhaps killing more than any other mammal. Trees and poles supporting houses should be sheathed with tin or galvanized iron to prevent these enemies from climbing to the nests.

Bird Tenants Notional about Location of House

The fact that there is a limit to the possible bird population on any given tract must be taken into consideration in building houses for them. When the probable tenants have been decided upon, the selection of sites is in order, for the site often decides the style of house that is to occupy it. Birds often have decided notions as to the proper surroundings for a dwelling. Martins prefer to breed near houses, but not within 20 feet of trees or buildings. Bluebirds are inclined to select orchards or pastures having scattered trees. Wrens, thrashers, and catbirds live in thick shrubbery. Robins like trees with sturdy trunks and branches.


In the final placing of bird houses, care should be taken to have them face away from the winds prevailing in stormy weather. The strongly developed homing instincts of birds can be relied on to attach them to the neighborhood where they first saw the light, and the identical pairs which nest in the houses provided for them one year will often return the next season to enjoy the same bounty and protection.

There are other means of attracting one's bird neighbors besides building houses. In winter if they are supplied food they will haunt the premises and the new bulletin gives plans

for an adequate shelter where food may be left. In summer still other means must often be sought to make them sociable. On warm days they particularly appreciate fresh water for drinking and bathing. A shallow pool of varying depth, if only a foot across, becomes a center of attraction for all the birds in the vicinity, and it may be made with little effort and material; only a small amount of cement is required, or, if that be lacking, a pan with stones in it set in the ground will be equally serviceable.

When we painted our kitchen, we found a number of cracks in the plastering that had to be filled. A painter told us to use plaster of paris mixed with some of the paint we were using. It does not set as quickly as when mixed with water, and it does better than putty for such work. For mending the cracks in a white ceiling, where the heat had caused the white coating to peel off, we mixed the plaster of paris with turpentine and oil, and were surprised to find how well it covered the unsightly places.

CANCER



and Tumors successfully treated (removed) without knife or pain. All work guaranteed. **Come, or write for free Sanatorium book** Dr. WILLIAMS SANATORIUM 3023 University Av., Minneapolis, Minn.

HEAVEN AND HELL

Swedenborg's great work on the life after death, 400 pages, only 15 cents postpaid. Pastor Landenberger, Windsor Place, St. Louis, Mo.

ENCOURAGE AND MAKE USE OF THE SPIRIT OF PLAY

Playground Games, 10 cts. Rules for playing the more common games of the school ground. Game of Times, 15 cents. A help in teaching and learning the tables and simple factoring. Davies Number Cards, 25 cents. All possible combinations. For all grades. In boxes. Westland Phonic Cards, 25 cents. Busy work for primary grades. An aid to sight reading. Fundamental Operations of Arithmetic, 15 cents. Invaluable for rapid work in numbers. Uncle Will's Magazine, The Rotary. 50 cents. Unique. Has personal element. 20th year. North Dakota Speller. 40th M. For 5th-6th, and 7th-8th Grades, 15 cts each. Trial, both 25 cts. Westland Educator, Box F. - - - Lisbon, North Dakota

NORTH DAKOTA SCHOOL LAW

For the first time since 1911 has the State published a volume of the School Laws, and not until 1919 will another edition be printed by the State.

WOULD YOU KNOW

For what reasons a pupil may be suspended or expelled?
Whether one is allowed to read the Bible in school?
What branches must be taught every day?
For what purposes the school house may be used?
Who may vote on school matters and what are the voters' qualifications?
How schools may be consolidated?
What recourse one has if he is not satisfied with the ratings of the examining board?
Whether free text-books may be adopted without a vote?
What to do when a pupil or parent disturbs the school?
What provision is now made for transportation of pupils?
How pupils may be compelled to attend school?
Whether children may be employed in stores and factories?
How a certificate may be revoked?
What the law is regarding drinking cups, fire escapes, hitching posts, school libraries, pension fund, accredited diplomas, etc.?

THEN ORDER A COPY OF THE LATEST SCHOOL LAWS
Price, post paid, 30 cents.

W. G. Crocker,

Lisbon, North Dakota

Seasonable Receipts

Mrs. Sadie Baird, Editor

SQUAW DISH

One can corn, four slices bacon diced and fried; add corn, three eggs well beaten, pepper.

WALNUT COOKIES

Half a cupful of butter, one cupful of sugar, two eggs, one cupful of walnuts, two cupfuls of flour, two level teaspoonfuls of baking-powder, one cupful of milk. Mix as for cake, drop on a buttered pan, and bake.

Caramel Mousse

Stir a cupful of granulated sugar in a saucepan over the fire until the caramel stage is reached. Add gradually a cupful of hot milk, and stir over boiling water until the caramel is dissolved. Then add a rounding teaspoonful of granulated gelatine soaked in one-fourth cupful of cold water and half a cupful of sugar. Strain into a bowl, chill thoroly, add one cupful of

stiff whipped cream, turn into a mould, and freeze in ice and salt.

BAKED APPLES

Select large, smooth apples. Remove cores, prepare a paste of sugar and butter, fill the core cavities with this mixture and press the apples together. Set in a baking dish close together so apples will hold each other up; bake until tender. These are delicious.

Waffles

One and a fourth cupful of flour, one-fourth of a teaspoonful of salt, half a teaspoonful of soda, one cupful of thick sour milk, two eggs and three tablespoonfuls of butter. Separate the whites and yolks, beat and add the melted butter just before folding in the whites.

POTATO BALLS

One pint of hot or cold mashed potato highly seasoned with salt, pepper, celery salt, and if liked add a small quantity chopped parsley and butter. Moisten with a little cream and beat one egg lightly; add part of it to the potatoes; shape into a smooth balls; brush over with the remainder of the egg; bake on a buttered tin until brown.

BREAKFAST DISHES

Cut cold potatoes in small cubes and fry a golden brown. Just before taking up break in two or three eggs and stir among the potatoes until "set."

Chop cold-boiled potatoes rather fine. To each cupful add three table-spoons sweet cream, one-half teaspoon salt, one-eighth teaspoon pepper. Mix. Put one tablespoon butter in a skillet; when hot add potatoes, pressing them down until a smooth layer. Cook slowly till a golden brown. Fold one-half over the other; turn out on heated platter.

Jam Pie

One cup of jam, one cup of sugar, yolks of three eggs, unbeaten, one-half cup of cream, one heaping tablespoon of flour, one-fourth cup of butter and two-thirds teaspoon of vanilla. Mix in the order named and cook together till thick, pouring the mixture into a pie crust already baked, or pour the uncooked mixture into a raw crust and bake 40 minutes. Serve cold with whipped cream slightly sweetened, or use the whites of the eggs for the top and brown in a quick oven. This is delicious and inexpensive for farm cooks who have their own cream, eggs and homemade jams.

GOOD LEFT-OVER DISHES

Mince remnants of chicken, ham, veal or any left-over and mix with a cream or tomato sauce. Pile the hot mixture in the center of a hot platter and arrange around it eggs baked as follows: Butter gem pans and break an egg into each pan. Cover with a spoonful of cream and bake until the eggs are set.

Mince cold ham, hard-boil four or five eggs and make a pint of cream sauce. Butter a baking-dish and cover the bottom with a layer of crumbs. Fill the dish with alternate layers of minced ham, sliced eggs and cream sauce. Cover with a layer of crumbs dotted with bits of butter and brown in the oven

MACARONI WITH TOMATO SAUCE

Take about one-third of a package of macaroni, break into small pieces and boil 25 minutes in salted water; then drain and cover with cold water, allowing it to remain in this cold water 20 minutes; then drain again and put in a baking dish. Strain a can of tomatoes to remove seeds; add salt and pepper to taste and heat to boiling point. Melt a large tablespoon of butter and rub smooth with it one teaspoon flour which add to the tomato liquor. Let it heat, then add to the macaroni in dish; put cracker crumbs over top and bits of butter and bake until heated thru and browned on top.

The good housekeeper who eats her prunes raw after they have been soaked over night would perhaps like to prepare dried peaches and evaporated apricots in the same way. Soak them over night in clear cold water, using only enough to cover, since too much makes them flat and insipid. Serve like fresh fruit.

H O N E Y

Pure Extracted honey—the most healthful and wholesome of all sweets. Our honey is put up in a neat clean manner, and is strictly first class in every way. Price: 2-60 lb. cans in case, \$12.60; 1-60 lb. can \$6.60; 6-10 lb. pails in case, \$7.20; 6-5 lb. pails in case \$3.75; single 10 lb. pails \$1.25; single 5 lb. pails \$.65.

EGGERS APIARIES CO.,
Eau Claire, R. 1 : Wisconsin

WE GUARANTEE EVERY POUND OF Clover Honey

We send out to be pure honey and of the finest quality. Price, \$3.45 per 30-lb. can, or for 2 or more cans \$3.30 each. Sixty-lb. cans \$6.30 each. Sample 10 cts. Price List, Free.
M. V. FACEY, : : PRESTON, MINN

For the invalid
as well as
those in
perfect
health

Baker's
Cocoa
is an ideal
food
beverage,

pure,
delicious
and
wholesome.

Walter Baker & Co. Ltd.
ESTABLISHED 1780 DORCHESTER, MASS.





Which Will You Have

Here are two cans of Paint.

Both are exactly the same size.

One will cost you \$2.75 per gallon. The other will cost perhaps as little as \$1.75 per gallon, but the Mound City Horse Shoe Brand at \$2.75 per gallon will cost you less in the end.

Reason? Simple enough.

Because a gallon of "Horse Shoe Paint" will cover a larger surface than the cheaper grade, and fewer gallons are required for the job. By actual test you will find that six gallons of "Horse Shoe Paint" (enough for two coats on a house measuring 2100 square feet) will go as far as ten gallons of the \$1.75 kind.

In other words, you invest \$16.50 in "Horse Shoe Paint," against \$17.50 in the cheaper grade.

Not only this, but the Horse Shoe Brand is bound to outwear the other two to one, making the Horse Shoe Brand far more economical in the end.

You save on the total cost of material.

You save in labor, because of the long life of the Horse Shoe Brand.

You save once more in the satisfaction of knowing that your property is beautified and protected with the highest quality of painting material that modern skill and science has yet developed.

AGAIN!! Mr. Property Owner—

Which will you have?

Mound City "Horse Shoe Brand" Paint

Sold only by

Paint, Hardware, Lumber and Drug Stores

Write for name of your nearest dealer

Mound City Paint & Color Co.

MANUFACTURERS - ST. LOUIS, U. S. A.

NORRIS B. GREGG, Pres.

WM. H. GREGG, Jr., Vice-Pres.

E. H. DYER, Sec.